CURRICULUM VITAE
(scientific version[1])

Name	Nicholas Irving FISHER
Place of Birth	Melbourne, Australia
Nationality	Australian

Contact information:

Business	**Academic**
ValueMetrics Australia	School of Mathematics & Statistics F07
PO Box 1049	University of Sydney
North Sydney, NSW 2059	NSW 2006
AUSTRALIA	AUSTRALIA
Mobile +61 407 017 016	Phone +61 407 017 016
E-mail: nif@valuemetrics.com.au	E-mail: Nicholas.Fisher@sydney.edu.au
URL www.valuemetrics.com.au	URL http://www.maths.usyd.edu.au/u/nickf/

1. EDUCATION

1.1 University
2009 1994 University of Sydney, D.Sc.
Contributions to the Statistical Analysis of Directional Data
1972–75 University of North Carolina, Ph.D. (1975)
Dissertation: *The theory of unbiased estimation for some nonparametric families of probability measures,* under direction of W. Hoeffding
1968–69 University of Sydney, M.Sc. (1970)
1964–67 University of Sydney, B.Sc. (1968)
2nd Class Division 1 Honours in Mathematical Statistics.

1.2 School
1962–63 Sydney Grammar School (Leaving Certificate 1963).
1959–61 Hunters Hill High School;

1.3 Other
2010 – present, PStat (Accredited Statistician, American Statistical Association)
2004 – 2007 Graduate, Australian Institute of Company Directors
1998 – present, AStat (Accredited Statistician, Statistical Society of Australia)
1997   *Certificate IV in Quality Management*
1992–3 CSIRO Leadership Development Program

2. SCHOLARSHIPS, AWARDS, FELLOWSHIPS
2023   W S Gosset Lecture Award, International Society for Business & Industrial Statistics
2019   Deming Lecture Award, American Statistical Association
(https://ww2.amstat.org/meetings/jsm/2019/webcasts/index.cfm)
2015   ISI Service Award

1998	Honorary Life Member, Statistical Society of Australia Inc.
1991	Elected Fellow of the American Statistical Association.
1987	Academic Visitor, Balliol College, Oxford
1987	Best Paper Award, Journal of Mathematical Geology, 1985
1986	Elected to Fellowship of International Statistical Institute
1981	ACTIM Scholarship (France)
1972–75	CSIRO Divisional Studentship
1968–69	Commonwealth Post–graduate Scholarship
1964–67	Commonwealth Scholarship

3. EMPLOYMENT HISTORY

3.1 Current positions

- 2001 – . Founder and Principal, ValueMetrics Australia, a consultancy that specialises in helping enterprises gain and sustain success through effective use of Performance Measurement.
- 2001 – . Visiting Professor of Statistics, University of Sydney
- 2021 – . Chief Data Scientist, YourDiamonds.com.

3.2 CSIRO

- **1969 – 2001** Chief Research Scientist, CSIRO Division of Mathematics & Statistics. (Experimental Officer 1, March 1969; Experimental Officer 2, July 1971; Research Scientist, July 1976; Senior Research Scientist, July 1979; Principal Research Scientist, July 1984; Senior Principal Research Scientist, July 1989; Chief Research Scientist 1997.)
- **1976 – 1993** Consultant at CSIRO Minerals Research Laboratories
- **1989 – 1997** Research Manager (Applied & Industrial Statistics Program), and Research Project Leader (Computer–Intensive Statistical Methods).

3.3 Other experience

- **2015 – 2018** Coordinator, Statistics and Big Data Project (UTS - leader, UWS, UNSW, SU, UoW, QUT, ANU)
- **2012 – 2013** Visiting Professor of Statistics, University of Leiden
- Founding Director, Enterprise Measurement Group Pty Ltd.
- Core Participant, Invasive Animals Cooperative Research Centre, 2005–2012
- **1999 – 2001** External member, Advisory Board, School of Information Sciences, Newcastle University
- **1996 – 2007** Visiting Professor of Geology, National Key Centre for the Geochemical Evolution and Metallogeny of Continents (GEMOC), Macquarie University
- **1987** Visiting appointment at the University of Rochester, New York; Academic Visitor, Balliol College, Oxford. Honorary Visitor at Mathematical Institute and School of Earth Sciences, Oxford University.
- **1981, 1983, 1985** Visiting appointments at the Open University, UK.
- **1981** Visiting Research Associate at the Centre for Geostatistics & Mathematical

Morphology, Paris School of Mines, Fontainebleau, France.
- **1978** Visiting Lecturer, Department of Mathematics, University of Auckland.
- **1970 – 72** Part–time Tutor, Department of Pure Mathematics, University of Sydney.
- **1970** Part–time Demonstrator, Department of Biometry, University of Sydney.

4. **MEMBERSHIP OF PROFESSIONAL SOCIETIES**

American Statistical Association (elected as a Fellow in 1991; Life Member since 2017)
International Association for Mathematical Geology (Life Member since 2008)
International Statistical Institute (elected to membership in 1986)
Institute of Mathematical Statistics
Royal Statistical Society
Statistical Society of Australia Inc. (elected Hon. Life Member, 1998)

5. OTHER PROFESSIONAL EXPERIENCE

5.1 Planning, teaching and workshops

Strategic Planning

- **2017– :** Facilitated development of Strategic and Operational Plans and associated Planning Process for the 4 departments of the Mellon College of Science and for the MCS, Carnegie Mellon University; implementation of stakeholder value management programs to provide ongoing metrics for the Strategic Plans
- **2008**: Facilitated development of Strategic and Operational Plans and associated Planning Process, Department of Statistics, Purdue University
- **2001–2007:** Facilitated development of Strategic and Operational Plans and associated Planning Processes for
    - the Statistical Society of Australia
    - VvS&OR (Netherlands)
    - ISBIS (International Society for Business and Industrial Statistics)
    - IAMG (International Association for Mathematical Geology)
    - participated in the Ad Hoc Strategic Planning Task Force for the American Statistical Association, which employed my planning process

Teaching and workshops

Apart from normal undergraduate and graduate lecturing loads associated with visiting appointments at the Universities of Auckland, Rochester and Oxford, I have given a number of short courses and numerous 1, 2 or 4-day workshops, including:

- *Analytics for Leaders. Performance Measurement for Enterprises.* 4-day Workshop (Part-time engineering PhD students – CEOs and middle management), Hong Kong Polytechnic. February 2014.
- *Analytics for Leaders. Performance Measurement for Enterprises.* 4-day Workshop (Statistics PhD students), SEEM, Hong Kong. December 2013.

- *Introduction to Performance Indicators*. Half-day workshop to COAG (Council of Australian Governments) Reform Council, June 2010.
- Various workshops on Organisational Performance Measurement and Customer Value Analysis for the Market Research Society of Australia, University of Wollongong MBA program, Mount Eliza Business School and others.
- Several two–day workshops on *Quality Management* to CSIRO groups, and one to the American Statistical Association Office, 1994–1997, as the first part of a process to help the groups adopt a quality management approach to the way they operated.
- 20 one–day short courses on *Preparation of Graphs and Tables for Official Publications and Presentation Graphics*, commissioned by Australian Bureau of Statistics, 1990–1992.
- Lecture course on *Directional Data Analysis* at Department of Statistics, Australian National University, 1986.
- Short course on *Nonparametric Statistics*, Department of Mathematics, University of Western Australia, 1979.

5.2 Professional contributions

Professional societies

- Chair, Statistical Society of Australia History Standing Committee
- Chair, Organising Committee, "Assessment of the Quality of Graduate Programs in Statistics and Biostatistics", ASA-sponsored Workshop, NISS, North Carolina, 9–11 November 2010.
- ASA Accreditation Committee, 2007 – 2014
- Chair, ASA Deming Lecturer Committee, 2007 – 2009
- ASA Strategic Planning Committee 2007–2008
- Chair, ISI Restructuring Committee, 2006–2007
- President, International Society for Business & Industrial Statistics, 2007–2009
- Vice-President, International Society for Business & Industrial Statistics, 2005–2007
- Vice-President, International Association for Mathematical Geology, 2004–2008
- Vice-President, International Statistical Institute (ISI), 2003–2007
- Council Member, Statistical Society of Australia Inc. 2004 –
- Council Member, International Statistical Institute, 2001–2005
- President, Statistical Society of Australia Inc. 2001-2003
- Member, ISI Committee on Industrial Statistics 1990 – 2005.
  Deputy Chair, 1996 – 1999, Chair 1999 - 2003.
- International Representative to the Board of Directors of the American Statistical Association, 1996–1998.
- Board of Directors, Interface Foundation of North America, 1994–98
- Bernoulli Society Committee for Statistics in the Physical Sciences 1990 – 1998; Chair 1990–1994.
- Statistical Society of Australia delegate to Australian Geoscience Council, 1983 – present.
- Council Member, Statistical Society of Australia, NSW Branch, 1978–80, 1989 – 95; Assistant Secretary, 1980, President (NSW Branch) 1992–3.
- Chair, Statistical Society of Australia, Section on *Statistics in the Earth Sciences*, 1982–1990.

- Secretary, Biometric Society (Australasian Region) 1978–79.

Conferences and other meetings

- Director, Sardegna Summer School, 27 June – 7 July 2011, Sardegna.
- Chair, Organising Committee, "Assessment of the Quality of Graduate Programs in Statistics and Biostatistics", ASA-sponsored Workshop, NISS, North Carolina, 9– 11 November 2010.
- Director, *International Symposium on Business & Industrial Statistics* (ISBIS-2010), Portoroz, Slovenia, July 2010.
- Co-Chair, Satellite conference on Business and Industrial Statistics, Stellenbosch, RSA, 24–26 August, 2009
- Co-Chair, Scientific Program, 2009 International Conference on Business and Industrial Statistics, Sardegna, Italy, 29 May – 3 June, 2009
- Co-Chair, Scientific Program Committee, 2008 International Conference on Applied Probability and Statistics (CAPS 2008) Hanoi, Vietnam. December 1– 3, 2008
- Director, *International Symposium on Business & Industrial Statistics* (ISBIS-2008), Prague, Czech Republic, 1– 4 July 2008.
- Director, *4th International Symposium on Business & Industrial Statistics* (ISBIS-4), Palm Cove, Queensland, 13-16 April 2005.
- Vice-Chair, National Organising Committee, *55th Session of International Statistical Institute*, Sydney, 5-12 April 2005.
- Chair, Bernoulli Society Program Committee, ISI Session, Seoul, Korea 2001.
- Organiser, One-day National Quality Management Conference, Sydney, April 1997.
- Director, *Sydney International Statistical Congress* (SISC-96), Sydney, July 8–12, 1996.
- Board of Directors, Interface Foundation of North America, 1994–98
- Director, *Chemometrics and Environmetrics Conference* (CHESM-93), Bologna Italy, August 1993.
- Organiser/Program Committee for various meetings, including some for Statistical Society of Australia, Biometric Society, International Statistical Institute, Bernoulli Society, Institute of Mathematical Statistics, Interface Foundation.

Editorial

- Editorial Board, ASA/ CRC Series on Statistical Reasoning in Science and Society. 2015 – present.
- Editorial Board, *Harvard Data Science Review*. 2018–2021. .
- Founding editor-in-Chief, *Stat. The ISI's Journal for the Rapid Dissemination of Statistics Research.* 2011 – 2014.
- Editorial Board, *Applied Stochastic Models in Business and Industry*, 1999 - present.
- Advisory Editorial Board, Wiley Series in Probability and Mathematical Statistics, 1990 – 2007.
- Editorial Board, *Metrika*, 1999 – 2012.
- Editorial Board, *Statistics and Computing* 1991–1995;
  Co–editor, 1996 – 2000.
- Founding Editor, BANG (*Bulletin of Australian News in Geomathematics*) 1981 – 1987.
- Editorial Correspondent, Int. Assoc. for Math. Geology, 1981–1984.
- Miscellaneous editorial

Statistics Education

- Initiator and Coordinator, International Data Science in Schools Project, 2018–2019.

IDSSP is an international collaboration of computer scientists and statisticians to develop a Curriculum Framework for a pre-calculus Data Science course for students in the last two years of high school, and a parallel framework to teach teachers how to teach this course. It is supported by all major statistical and CS societies. www.idssp.org

- Co-organiser, STEMS2016 – a conference to begin transforming Statistics Education in Australia (under contract for UTS). 2 – 3 June, 2016, University of Technology Sydney.
- Coordinator, collaboration of Australian Universities on adoption of Tessera, 2015–2016 (under contract for UTS).
- Coordinator, ABS-SSAI Working Group on the national Syllabus in Mathematics for Schools

Professional Accreditation and Public Awareness

- Foundation member, Professional Accreditation Committee, Statistical Society of Australia Inc. (SSAI). Foundation Chair, SSAI Public Awareness Committee 2000 – 2004.

Other

- Advisory Committee, Australian Bureau of Statistics Methodological Division. 1996–1997.
- 1995 US National Science Foundation Statistics Screening Panel

6. PUBLICATIONS (peer-reviewed)

6.1 Books / journals
1. Fisher, N.I., T. Lewis & B.J.J. Embleton — *Statistical Analysis of Spherical Data*. 1987. Cambridge: Cambridge University Press. https://doi.org/10.1017/cbo9780511623059 1993. First paperback edition.
2. Fisher, N.I.— *Statistical Analysis of Circular Data*. 1993. Cambridge: Cambridge University Press. https://doi.org/10.1017/cbo9780511564345 1995. First paperback edition.
3. Fisher, N.I. & P.K. Sen, Editors — *The Collected Works of Wassily Hoeffding*. 1994. New York: Springer. https://doi.org/10.1007/978-1-4612-0865-5
4. Fisher, N.I., Editor — Sarasohn, Homer M. & Charles B. Protzman (1948), *The Fundamentals of Industrial Management*. Civil Communications Section, GHQ, SCAP. 1998 electronic edition available at http://www.valuemetrics.com.au/resources003.html.
5. Fisher, N.I. (2013) — *Analytics for Leaders. A Performance Measurement System for Business Success*. Cambridge: Cambridge University Press. ISBN 9781107045569. https://doi.org/10.1017/cbo9781107053779
6. Fisher, N.I., Y. Tanaka & W. H. Woodall (2019), *The Road to Quality Control. The Industrial Application of Statistical Quality Control*, *by H. M. Sarasohn*. Wiley. https://doi.org/10.1002/9781119515012

6.2 Peer reviewed articles (except those marked *)
Copies of most articles are available via ResearchGate
1. Brown, G.H. & N.I. Fisher — Subsampling a mixture of sampled material. *Technometrics* **14(3)** (1972) 663–668. https://doi.org/10.1080/00401706.1972.10488955
2. Brown, B.M., G.K. Eagleson & N.I. Fisher — On the central limit problems for sums with random coefficients. *Z. Wahrscheinlichkeitstheorie verw. Geb*. **27** (1973) 171–178. https://doi.org/10.1007/bf00535846
3. O'Callaghan, M. & N.I. Fisher — A stochastic model for the development and immunological control of a class of parasites of sheep. *Math. Biosciences* **19** (1974) 287–297. https://doi.org/10.1016/0025-5564(74)90044-3
4. Fisher, N.I. — A note on the evaluation of the incomplete gamma function. *J. Statist. Comput. Simul.* **2** (1973) 325–332. https://doi.org/10.1080/00949657308810058
5. Beattie, R.D. & N.I. Fisher — The computation of zones of influence of linear geological structures. *Computers and Geosciences* **4** (1978) 77–87. https://doi.org/10.1016/0098-3004(78)90029-8
6. Fisher, N.I. & M.E. Willcox — A useful decomposition of the resultant length for samples from von Mises–Fisher distributions. *Commun. Statist*. **B7(3)** (1978) 257–267. https://doi.org/10.1080/03610917808812075
7. Shepherd, J. & N.I. Fisher — Faults, roof failure and mining rate: A case study in

a NSW Colliery. *Int. J. Rock Mech. Min. Sci*. **30** (1978) 1325–1334. https://doi.org/10.1016/0148-9062(79)91282-8

8. Best, D.J. & N.I. Fisher — Efficient simulation of the von Mises distribution. *Appl. Statist*. **28** (1979) 152–157. https://doi.org/10.2307/2346732

9. Dickson, B.L. & N.I. Fisher — Radiometric disequilibrium analysis of the carnotite uranium deposit at Yeelirrie, Western Australia. *Proc. Australas. Inst. Min. Metall*. **273** (1980) 13–19.

10. Fisher, N.I. & H.M. Hudson — A note on the multivariate linear model with constraints on the dependent vector. *Austral. J. Statist*. **22** (1980) 75–78. https://doi.org/10.1111/j.1467-842x.1980.tb01156.x

11. Fisher, N.I. — One–sample probability plots. *Austral. J. Statist*. **23** (1981) 352–359. https://doi.org/10.1111/j.1467-842x.1981.tb00798.x

12. Fisher, N.I. & A.J. Lee — Nonparametric measures of angular–linear association. *Biometrika* **68** (1981) 629–636. https://doi.org/10.1093/biomet/68.3.629

13. Best, D.J. & N.I. Fisher — The bias of the maximum likelihood estimators of the von Mises–Fisher concentration parameters. *Commun. Statist*. **B10(5)** (1981) 493–502. https://doi.org/10.1080/03610918108812225

14. Shepherd, J., J.W. Creasey & N.I. Fisher — Statistical analysis of spacings between geological discontinuities in coal mines, with applications to short–range forecasting of mining conditions. *Australian Coal Geology* **3** (1981) 71–80.

15. Fisher, N.I., , T. Lewis & M.E. Willcox — Tests of discordancy for samples from Fisher's distribution on the sphere. *Applied Statistics* **30** (1981) 230–237. https://doi.org/10.2307/2346346

16. Shepherd, J. & N.I. Fisher — A rapid method of mapping fractures in mines. *Australian Coal Miner* **3(8**) (1981) 24–33.

17. Shepherd, J. & Fisher N. I. (1982) — Rapid method of mapping fracture trends in collieries. *Trans. Soc. Min. Eng. AIME*, **270**, 1931–1932.

18. Lewis, T. & N.I. Fisher — Graphical methods for investigating the fit of Fisher's distribution to a sample of spherical data. *Geophys. J. R. astr. Soc*. **69** (1982) 1–13. https://doi.org/10.1111/j.1365-246x.1982.tb04931.x

19. Fisher, N.I. & A.J. Lee — Nonparametric measures of angular–angular association. *Biometrika* **69** (1982) 315–321. https://doi.org/10.2307/2335405

20. Fisher, N.I. — Unbiased estimation for some nonparametric families of distributions. *Ann. Statist*. **10** (1982) 603–615. https://doi.org/10.1214/aos/1176345801

21. Fisher, N.I. — Nonparametric statistics. *The Mathematical Scientist* **7** (1982) 25–47.

22. Shepherd, J. & N.I. Fisher — Rapid method of mapping fracture trends in collieries. *Trans. Soc. Min. Eng. AIME* **270** (1982) 1931–1932.

23. Fisher, N.I. — Robust estimation of the concentration parameter of Fisher's distribution on the sphere. *Applied Statistics* **31** (1982) 152–154. https://doi.org/10.2307/2347979

24. Fisher, N.I. — Contribution to Discussion of ``The Statistical Analysis of Compositional Data'' by J. Aitchison, *J.R. Statist. Soc*. **B 44** (1982) 165.

25. Fisher, N.I. & A.J. Lee — A maximum problem. (Problem 82–1*) SIAM Review* **24** (1983) 76. https://doi.org/10.1137/1024006

26. Fisher, N.I. — Simulating an auto–correlated sequence of Rayleigh variables. *Math. Geol.* **15** (1983) 499–500. https://doi.org/10.1007/bf01031298

27. Fisher, N.I. — Graphical methods in nonparametric statistics: A review and annotated bibliography. *Int. Statist. Rev*. **51** (1983) 25–58. https://doi.org/10.2307/1402730

28. Fisher, N.I. & A.J. Lee — A correlation coefficient for circular data. *Biometrika* **70** (1983) 327–332. https://doi.org/10.1093/biomet/70.2.327

29. Fisher, N.I. & T. Lewis — Estimating the common mean direction of several circular or spherical distributions with possibly differing dispersions. *Biometrika* **70** (1983) 333–341; Correction — **71** (1984), 655. https://doi.org/10.1093/biomet/71.3.655 Correction https://doi.org/10.2307/2336584

30. Embleton, B.J.J., N.I. Fisher & P.W. Schmidt — Analytic comparison of Polar Wander Paths. *Earth Planet Sci. Lett*. **64** (1983) 276–282. https://doi.org/10.1016/0012-821x(83)90209-1

31. Fisher, N.I., T. Lewis & M.E. Willcox — Comment on ``Rejection of palaeomagnetic observations'' by P.L. McFadden. *Earth Planet Sci. Lett*. **64** (1983) 316–317. https://doi.org/10.1016/0012-821x(83)90213-3

32. Fisher, N.I. — Comment on ``A method for estimating the standard deviation of wind directions'' by K.A. Verrall and R.L. Williams. *J. Climate Appl. Meteorology* **22(11)** (1983), 1971. https://doi.org/10.1175/1520-0450(1983)022%3C1971:comfet%3E2.0.co;2

33. Fisher, N.I. & D.J. Best — Goodness–of–fit tests for Fisher's distribution on the sphere. *Austral. J. Statist*. **26** (1984) 142–150.

34. Fisher, N.I. — Comment on ``Comment on `Determination of the angle of a Fisher distribution which will be exceeded with a given probability by P.L. McFadden' by M.E. Beck''. *Geophys. J.R. astr. Soc*. **50** (1984) 283–284.

35. Fisher, N.I. — Spherical medians. *J.R. Statist.Soc*. **B 47** (1985) 342–348. https://doi.org/10.1111/j.2517-6161.1985.tb01362.x

36. Fisher, N.I. & T. Lewis — A note on spherical splines. *J.R. Statist. Soc*. **B 47** (1985) 482–488. https://doi.org/10.1111/j.2517-6161.1985.tb01378.x

37. Fisher, N.I., J.F. Huntington, D.R. Jackett, M.E. Willcox & J.W. Creasey — Spatial analysis of two–dimensional orientation data. *J. Math. Geol*. **17** (1985) 177–194. https://doi.org/10.1007/bf01033153

38. Fisher, N.I. & P. Switzer — Chi–plots for assessing dependence. *Biometrika* **72** (1985) 253–265. https://doi.org/10.1093/biomet/72.2.253

39. Diggle, P.J., N.I. Fisher & A.J. Lee — A comparison of tests of uniformity on the sphere. *Austral. J. Statist*. **27** (1985) 53–59. https://doi.org/10.1111/j.1467-842x.1985.tb00547.x

40. Fisher, N.I. — Calculation of an approximate elliptical confidence cone for the polar axis of a bipolar or girdle distribution, based on a large sample of measurements. Appendix to `Megakinking in the Lachlan Fold Belt' by C.McA.

Powell, J.P. Cole and T.J. Cudahy, *J. Struct. Geol.* **7** (1985), 281–300.

41. Diggle, P.J. & N.I. Fisher — SPHERE: a contouring program for spherical data. *Computers and Geosciences* **11** (1985) 725–766. https://doi.org/10.1016/0098-3004(85)90015-9

42. Fisher, N.I. & A.J. Lee — Correlation coefficients for random variables on the sphere and the hypersphere. *Biometrika* **73** (1986) 159–164. https://doi.org/10.1093/biomet/73.1.159

43. Best, D.J. & N.I. Fisher — Goodness–of–fit and discordancy tests for samples from the Watson distribution on the sphere. *Austral. J. Statist.* **28** (1986) 13–31. https://doi.org/10.1111/j.1467-842x.1986.tb00580.x

44. Fisher, N.I. — Robust tests for comparing the dispersions of several Fisher or Watson distributions on the sphere. *Geophys. J. R. astr. Soc.* **85** (1986) 563–572; Erratum — **87** (1986) 1229. https://doi.org/10.1111/j.1365-246x.1986.tb04532.x

45. Fisher, N.I. — Robust comparison of dispersion for samples of directional data. *Austral. J. Statist.* **28** (1986) 213–219; Erratum — **28** (1986) 424. https://doi.org/10.1111/j.1467-842x.1986.tb00601.x

46. Fisher, N.I. — Problems with the current definitions of the standard deviation of wind direction. *J. Climate Appl. Meteorology* **26** (1987) 1522–1529. https://doi.org/10.1175/1520-0450(1987)026%3C1522:pwtcdo%3E2.0.co;2

47. Fisher, N.I. — Spherical medians. *In Encyclopaedia of Statistical Sciences*, S. Kotz, N.L. Johnson & C.B. Read, Editors, **8** (1988) 603–604 New York: Wiley. https://doi.org/10.1002/9781118445112.stat00757

48. Diggle, P.J. & N.I. Fisher — Letter to the Editor. *Computers and Geosciences* **14** (1989) 1031–1032.

49. Fisher, N.I. — Girdle (equatorial) data/distributions. In *Encyclopaedia of Statistical Sciences*, S. Kotz, N.L. Johnson C.B. Read, Editors (1989), Supplement Volume p69. New York: Wiley. https://doi.org/10.1002/0471667196.ess3030.pub2

50. Fisher, N.I. & C.McA. Powell — Statistical analysis of two–dimensional palaeocurrent data: methods and examples. *Austral. J. Earth Sciences* **36** (1989), 91–107. https://doi.org/10.1080/14400958908527953

51. Fisher, N.I. — Smoothing a sample of circular data. *J. Struct. Geol.* **11** (1989) 775–778. https://doi.org/10.1016/0191-8141(89)90012-6

52. Fisher, N.I. & P. Hall — Bootstrap confidence regions for directional data. *J. Am. Statist. Assoc.* **84** (1989) 996–1002. Correction — (1990), **85**, 608. https://doi.org/10.1080/01621459.1989.10478864 Correction https://doi.org/10.2307/2289832

53. Fisher, N.I. & P. Hall — On bootstrap hypothesis testing. *Austral. J. Statist.* **32** (1990) 177–190. https://doi.org/10.1111/j.1467-842x.1990.tb01011.x

54. Fisher, N.I. & P. Hall — New statistical techniques for directional data I: Bootstrap comparison of mean directions and the Fold Test in Palaeomagnetism. *Geophys. J. Internat.* **101** (1990) 305–313. https://doi.org/10.1111/j.1365-246x.1990.tb06570.x

55. Fisher, N.I. — On the application of some computer–intensive statistical methods in the Earth Sciences. Invited paper, CTAC–89. pp 33–48 in *Computational*

Techniques and Applications: CTAC–89, eds. W.L. Hogarth B.J. Noye (1990), New York: Hemisphere Publishing Company.

56. Fisher, N.I. — Discussion of "OMEGA (Online Multivariate Exploratory Graphical Analysis): Routine Searching for Structure". *Statistical Science* **5** (1990), 213–215. https://doi.org/10.1214/ss/1177012169

57. Fisher, N.I. — Combining independent *P*–values when sample sizes are known: a comment on Han (1989). *American Statistician* **44** (1990), 327.

58. Fisher, N.I. & P. Hall — A general statistical test for the effect of folding. *Geophys. J. Internat*. **105** (1991), 419–427. https://doi.org/10.1111/j.1365-246x.1991.tb06723.x

59. Fisher, N.I. & P. Hall — Bootstrap algorithms for small samples. *J. Statist. Planning Inf*. **27** (1991), 157–169. https://doi.org/10.1016/0378-3758(91)90013-5

60. P.J. Diggle & N.I. Fisher — Nonparametric comparison of cumulative periodograms. *Applied Statistics* **40** (1991), 423–434. https://doi.org/10.2307/2347522

61. Fisher, N.I. & P. Hall — Contribution to Discussion (pp 123–4) of B. Efron (1992), Jackknife–after–bootstrap standard errors and influence functions (with Discussion). *J. R. Statist. Soc*. **B 53** (1992), 83–127.

62. Fisher, N.I. & P. Hall — Bootstrap methods for directional data. pp 47–63 in *The Art of Statistical Science. A Tribute to G.S. Watson*, edited by K.V. Mardia, 1992. Chichester: Wiley.

63. Fisher, N.I., C.McA. Powell, A. Gelin & D.McP. Duncan — A PC statistical package for field acquisition and analysis of two–dimensional orientation data. In *Computers in Geology*, edited by D.F. Merriam, 1992. https://doi.org/10.1007/978-1-4899-2335-6_12

64. Mammen, E., J.S. Marron & N.I. Fisher (1992) — Some asymptotics for multimodality tests based on kernel density estimates*, Probability Theory and Related Fields* **91**, 115–132. https://doi.org/10.1007/bf01194493

65. Fisher, N.I. & A.J. Lee — Regression models for an angular response. *Biometrics* **48** (1992) 665–677. https://doi.org/10.2307/2532334

66. Fisher, N.I., A.D. Lunn & S.J. Davies — Spherical median axes. *J.R. Statist. Soc*. **B 55** (1993) 117–124. https://doi.org/10.1111/j.2517-6161.1993.tb01471.x

67. Cameron, M.A. & N.I. Fisher — GSM–X: The statistical missing link in processing and interpreting multivariate exploration data. pp 6–13 in *Applications of Computers in the Mineral Industry*, edited by E.Y. Baafi, 1993. Wollongong: University of Wollongong Printery Services.

68. Fisher, N.I. & A.J. Lee — Time series analysis for circular data. *J.R. Statist.Soc*. **B 56** (1994), 327–339. https://doi.org/10.1111/j.2517-6161.1994.tb01981.x

69. Fisher, N.I., E. Mammen & J.S. Marron — Testing for multimodality. *Computational Statistics & Data Analysis* **18** (1994), 499–512. https://doi.org/10.1016/0167-9473(94)90080-9

70. Hall, P.G., N.I. Fisher & B. Hoffmann — Nonparametric estimation of a covariance function. *Ann. Statist*. (1994) **22**, 2115–2134. https://doi.org/10.1214/aos/1176325774

71. Lewis, T. & N.I. Fisher — Estimating the angle between the mean directions of two spherical distributions. *Austral. J. Statist*. **37** (1995), 179–191. https://doi.org/10.1111/j.1467-842x.1995.tb00652.x

72. Fisher, N.I., P. Hall, B.-Y. Jing & A. Wood — Improved pivotal methods for constructing confidence regions for directional data. *J. Am. Statist. Assoc*. **91** (1996) 1062–1070. https://doi.org/10.1080/01621459.1996.10476976

73. Fisher, N.I., P. Hall & D. Kirk — On the distribution of the normal to a random curve or surface. *J. Mult. Analysis* **59** (1996) 217–229. https://doi.org/10.1006/jmva.1996.0062

74. Fisher, N.I. — Copulas. In *Encyclopaedia of Statistical Sciences*, *Update Volume 1* (1997), *pp.* 159-162. S. Kotz, N.L. Johnson C.B. Read, Editors. New York: Wiley.

75. Fisher, N.I., P. Hall, B. Turlach & G.S. Watson. — On the estimation of a convex set from noisy data on its support function. *J. Am. Statist. Assoc* **92** (1997) 84-91. https://doi.org/10.1080/01621459.1997.10473605

76. Griffin, W.L., N.I. Fisher, J.H. Friedman & C.G. Ryan — Statistical techniques for the classification of chromites in diamond exploration samples *J. Geochem. Exploration* **59** (1997) 233-249. https://doi.org/10.1016/s0375-6742(97)00015-0

77. Fisher, N.I. — Statistical Models for Circular Data. *Encyclopedia of Biostatistics*, 1998. Wiley: Chichester.

78. Beran, R.J. & N.I. Fisher — Nonparametric comparison of mean directions or mean axes. *Ann. Statist.* **26** (1998) 472-493. https://doi.org/10.1214/aos/1028144845

79. Beran, R.J. & N.I. Fisher — An interview with Geoff Watson. *Statistical Science* **13** (1998) 75-93. https://doi.org/10.1214/ss/1028905975

80. Fisher, N.I. & P. Hall — Geoffrey Stuart Watson: a tribute and obituary. *Austral. & New Zealand J. Statist.* **40** (1998) 257-267. https://doi.org/10.1111/1467-842x.00030

81. Cleveland, W.S. & Fisher, N.I. — Good graphs for better business. *The Quality Magazine* **7** #4 (1998), 64-68.

82. Barnes, M. Coulton, L., Dickinson, T., Dransfield, S., Field, J., Fisher, N., Saunders, I. & Shaw, D., — A new approach to performance measurement for small and medium enterprises, pp 86-92 in *Performance Measurement – Theory and Practice*, Proceedings of First International Conference on Performance Measurement, 14-17 July, 1998. Cambridge: Centre for Business Performance.

83. Friedman, J.H. & N.I. Fisher — Bump hunting in high-dimensional data. With discussion and authors' reply. *Statistics and Computing* **9** (1999) 123-162.

84. Griffin, W.L., N.I. Fisher, J.H. Friedman, C.G. Ryan & S. O'Reilly — Cr-Pyrope Garnets in Lithospheric Mantle. I. Compositional Systematics and Relations to Tectonic Setting. *J. Petrology* **40** (1999), 679-704. https://doi.org/10.1093/petroj/40.5.679

85. Dransfield, S.B., N.I. Fisher & N.J. Vogel — Using statistics and statistical thinking to improve organisational performance. With discussion and authors' reply. *International Statistical Review*, **67** (1999), 99-150.

https://doi.org/10.2307/1403390

86. Chennell, A.F., S.B. Dransfield, J.B. Field, N.I. Fisher, I.W. Saunders & D.E. Shaw — OPM® : A System for Organisational Performance Measurement, pp xxx-xxx in *Performance Measurement – Theory and Practice*, Proceedings of Second International Conference on Performance Measurement, 18-20 July, 2000. Cambridge: Centre for Business Performance.

87. Fisher, N.I. & J.S. Marron — Mode Testing Via the Excess Mass Estimate. *Biometrika* **88** (2001), 499-517. https://doi.org/10.1093/biomet/88.2.499

88. Fisher, N.I. & P. Switzer — Graphical assessment of dependence: Is a picture worth a hundred tests? *The American Statistician* **55** (2001), 233-239. https://doi.org/10.1198/000313001317098248

89. Fisher, N.I. — Crucial issues for Statistics in the next two decades. *International Statistical Review*, **69** (2001), 3-4. https://doi.org/10.1111/j.1751-5823.2001.tb00473.x

90. Fisher, N.I. — The Power Binomial Distribution: a flexible (two-parameter) finite probability distribution. *Applied Stochastic Models in Business and Industry* **18** (2002), 219-224. https://doi.org/10.1002/asmb.472

91. Belousova, E., W.L. Griffin, S.Y. O'Reilly & N.I. Fisher (2002) — Apatite as an indicator mineral for mineral exploration: trace-element composition and its relationship to source rock type. *Journal of Geochemical Exploration* **76**, 45-69. https://doi.org/10.1016/s0375-6742(02)00204-2

92. Belousova, E., W.L. Griffin, S.Y. O'Reilly & N.I. Fisher (2002) — Igneous zircon: trace-element compositions as indicators of source rock type. *Contributions to Mineralogy and Petrology*, **143** 602-622. https://doi.org/10.1007/s00410-002-0364-7

93. Griffin, W.L., Fisher, N.I., Friedman, J.H., O'Reilly, S.Y. & Ryan, C.G. (2002) — Cr-pyrope garnets in the lithospheric mantle. II. Compositional populations and their distribution in time and space. *Geochemistry, Geophysics and Geosystems* **3** 2002-12-14, 34pp. (Electronic only.) https://doi.org/10.1029/2002gc000298

94. Fisher, N.I. — Figures fool when fools figure. *Australasian Science*, **25** *no. 3* (2004), 43.

95. Fisher, N.I. — The Industrial Statistics Divide: Are Statisticians Really Relevant to Business and Industry? Proceedings of 2004 ISI Special Conference on *The Vital Role of Statistical Science in Assuring National Prosperity*, Daejon, Korea, August 29-31, 2004. *International Statistical Review*, **73** (2005), 177-180. https://doi.org/10.1111/j.1751-5823.2005.tb00264.x

96. Fisher, N.I. & Lee, J.J. (2005), editors, *Proceedings* of 2004 ISI Special Conference on *The Vital Role of Statistical Science in Assuring National Prosperity*, Daejon, Korea, August 29-31, 2004. *International Statistical Review*, **73** (2005). https://doi.org/10.1111/j.1751-5823.2005.tb00257.x

97. Fisher, N.I. — Public Awareness, Professionalism & Professional Accreditation; international collaboration. *Proceedings* of 2004 ISI Special Conference on *The Vital Role of Statistical Science in Assuring National Prosperity*, Daejon, Korea, August 29-31, 2004. *International Statistical Review*, **73** (2005), 269-270. https://doi.org/10.1111/j.1751-5823.2005.tb00292.x

98. Fisher, N.I. & W.R. van Zwet — *Wassily Hoeffding 1914–1991. A biographical memoir.* The National Academies Press **86** (2005). Washington, D.C.

99. Fisher, N.I., A.J. Lee & R.S. Sparks — No more static. *Marketing Research*, *pp* 14-19, Spring 2005.

100. Fisher, N.I. — Statistics becomes a statistic. *Australian R&D Review*, *p* 9, June 2006.

101. Fisher, N.I., J.H.J. Cribb & A.J. Peacock — Reading the public mind: a novel approach to improving the adoption of new science and technology. *Australian Journal of Experimental Agriculture* **47**(11), 2008, 1–10. https://doi.org/10.1071/ea07004

102. Fisher, N.I. — Contributions to "The future of industrial statistics: a panel discussion", edited by David M Steinberg. *Technometrics* **50** (2008), 103–127.

103. Fisher, N.I. & W.R. van Zwet — Remembering Wassily Hoeffding. *Statistical Science* **23** (2008) , 536–547. https://doi.org/10.1214/08-sts271

104. Fisher, N.I. & V N Nair (2009) — Quality Management and Quality Practice: Perspectives on their History and their Future. *Applied Stochastic Models in Business and Industry,* **25**, 1–28. https://doi.org/10.1002/asmb.756

105. Beran, R.J. & N. I. Fisher (2009) — An Evening Spent with Bill van Zwet. *Statistical Science* 24, 87 – 115. https://doi.org/10.1214/08-sts261

106. Fisher, N.I. (2009) — Homer Sarasohn and American involvement in the evolution of Quality Management in Japan, 1945-1950. *International Statistical Review* **77**, 276–299. https://doi.org/10.1002/9781119515012.oth2

107. Fisher, N.I., Lee, A.J., Cribb, J.H.J. & Haynes, G. D. (2010) — Public perceptions of foxes and fox eradication in Tasmania. *Australian Zoologist* **35** (3), 576–589. https://doi.org/10.7882/az.2011.010

108. Fisher, N.I. (2010) — A Conversation with Jef Teugels. *International Statistical Review* **78**, 419–441. https://doi.org/10.1111/j.1751-5823.2010.00121.x

109. Baddeley, A.J., M. Berman, N.I. Fisher, A. Hardegen, R.K. Milne, D. Schuhmacher , R. Shah & R. Turner (2010) — Spatial logistic regression and change-of-support in Poisson point processes. *Electronic Journal of Statistics* **4**, 1151–1201. https://doi.org/10.1214/10-ejs581

110. Fisher, N.I. (2010) — *Contribution to the Discussion of* "Towards more accessible conceptions of statistical inference" by C. J. Wild, M. Pfannkuch and M. Regan. *J. R. Statist. Soc A* **174**, 279–280.

111. Fisher, N.I. & A.J. Lee — Getting the `correct' answer from incorrect survey responses: a simple application of the EM algorithm. *Austral. & New Zealand J. Statist.* **53** (2011), 353–364. https://doi.org/10.1111/j.1467-842x.2011.00628.x

112. Fisher, N.I., A.J. Lee & J.H.J. Cribb (2011) — A scientific approach to monitoring public perceptions of scientific issues. *International Journal of Science Education Part B*, 2012, 1 – 27, iFirst Article. https://doi.org/10.1080/09500693.2011.652364

113. Fisher, N.I., A. J. Lee & J. H. J. Cribb (2012) — A scientific approach to monitoring public perceptions of scientific issues.   *International Journal of Science Education, Part B: Communication and Public Engagement*, 1–27, iFirst

Article. http://dx.doi.org/10.1080/09500693.2011.652364. (Also available as *International Journal of Science Education, Part B: Communication and Public Engagement* **3**(1), 2013, 2 –51.)

114. Fisher, N.I. & J.H.J. Cribb (2012) − Ask and you shall receive - smart consultation leads to better science. *The Conversation*, 31 May, 2012. http://theconversation.edu.au/ask-and-you-shall-receive-smart-consultation-leads-to-better-science-7279.

115. *Fisher, N. I. (2013) − Stat – the first year. Stat **2**, 269–272. https://doi.org/10.1002/sta4.36

116. Fisher, N.I. & W. R. van Zwet (2015) − An interview with Jae C. Lee. *International Statistical Review* **83**, 371–404. https://doi.org/10.1111/insr.12090

117. Fisher, N. I. (2015) − A conversation with Jerry Friedman. *Statistical Science* **30**, 268–295. https://doi.org/10.1214/14-sts509

118. Beran, R.J. & Fisher, N.I. (2016) − Obituary, Peter Gavin Hall AO, 1951-2016. *Journal of the Royal Statistical Society Series A* **179**, 1117–1120. https://doi.org/10.1111/rssa.12216_1

119. N. I. Fisher & A. J. Peacock (2017) — What Collaborators Want: Planning, Monitoring and Evaluating Research Collaborations. *Journal of Creating Value* **3**(1), 93 – 103. https://doi.org/10.1177/2394964316684399

120. Fisher, N.I. (2017) − Obituary, Mike Tallis, 1931 – 2017. *Journal of the Royal Statistical Society Series A* **180**, 934–936. https://doi.org/10.1111/rssa.12288

121. *Fisher, N.I. (2018) — A conversation with Mike Tallis. http://www.statsoc.org.au/general/conversation-mike-tallis/.

122. Fisher, N.I. (2018) — Stakeholder Value as an Organising Principle for Strategic Planning, with application to a university department. *Journal of Creating Value* 2(1), 1–10. Article first published online: May 10, 2018 https://doi.org/10.1177/2394964318771251.

123. Fisher, N.I. (2019) — A Comprehensive Approach to Problems of Performance Measurement. *Journal of the Royal Statistical Society Series A*. Read before the Royal Statistical Society, 16 January 2019. **182** (3), 755–803. https://doi.org/10.1111/rssa.12424

124. Fisher, N.I. & Kordupleski, R.E. (2019) — Good and Bad Market Research: What's Wrong with Net Promoter Score, and Why. *Applied Stochastic Models in Business and Industry* **35** (1), 138-151. https://doi.org/10.1002/asmb.2417

125. Bailer, A.J. & Fisher, N.I. (2020) — Discussion of "A review of data science in business and industry and a future view". *Appl Stochastic Models Bus Ind.* **36**(1), 20-22. https://doi.org/10.1002/asmb.2504

126. Bickel, P.J. & Fisher, N.I. (2020), "Obituary: Willem van Zwet, 1934 –2020". *Journal of the Royal Statistical Society Series A* **183**, 1823–1825. https://doi.org/10.1111/rssa.12602

127. Fisher, Nicholas & Adrian Smith (2021) — Willem van Zwet's contributions to the profession. *The Annals of Statistics*. **49**, 2432–2438. https://doi.org/10.1214/21-AOS2053

128. N. I. Fisher & D. J. Trewin (2021), "A proposal to enhance national capability to

manage epidemics: The critical importance of expert statistical input including official statistics". *Statistical Journal of the IAOS* **37**, 1 – 17. 2021. DOI: [10.3233/SJI-210808](10.3233/SJI-210808)

129. Fisher, N. I. (2021) — Performance Measurement: Issues, approaches and opportunities. *Harvard Data Science Review* **3.4.** Fall 2021. Published Oct 29, 2021. https://doi.org/10.1162/99608f92.c28d2a68.

130. Fisher, Nicholas I., Peter D. Lunn & Stephen Sasse (2021) — Enhancing Value by Continuously Improving Enterprise Culture. *Journal of Creating Value* **7(2)**, 1 – 23. https://doi.org/10.1177/23949643211044048

131. Fisher, N. I. (2022) — Assessing the Quality of Universities: A Gedankenexperiment Derived from Creating Stakeholder Value. **8(1)**, 25 – 44. https://doi.org/10.1177/23949643221078120.

132. Fisher, N.I, D.R. Jeske, W.G. Müller, Paulo Canas Rodrigues & Fabrizio Ruggeri (2022) — International Society for Business and Industrial Statistics (ISBIS): The evolution of business and industrial statistics in the International Statistical Institute. *StatsRefs*.   DOI: 10.1002/9781118445112.stat08419

6.3 Book Reviews

1. H.A. David (1981) *Order Statistics*. 2nd Edition. *Biometrics* **37** (1981), 861–862.
2. J.W. Pratt & J.D. Gibbons (1981). *Concepts of Nonparametric Theory*. *Austral. J. Statist.* **25** (1983), 145–149.
3. J.S. Maritz (1981). *Distribution–free Statistical Methods*. *Austral. J. Statist.* **25** (1983), 145–149.
4. J.M. Chambers, W.S. Cleveland, B. Kleiner & P.A. Tukey (1983*). Graphical Methods in Data Analysi*s. *Biometrics* **40** (1984), 567–568.
5. A.C. Atkinson (1984). *Plots, Transformations and Regression. Biometrics* **43** (1987), 477–478.
6. G.J.G. Upton & B. Fingleton. *Spatial Data Analysis by Example, Volumes I & II. Austral. J. Statist*. **33** (1991), 114–117.

6.4 Manuscripts submitted for publication

Fisher, N. I. and Lee, A.J., "Hedonic Indices for Collectables".

7. INVITED ARTICLES (unrefereed)

1. Huntington, J.F. & N.I. Fisher — The identification of structural domains from geological orientation data. Invited paper, *42nd Session, International Statistical Institute* **42** (1979) 539–556, Manila 1979.
2. Fisher, N.I. — Goodness–of–fit and outlier detection procedures for samples from http://www.idssp.org/pages/about.htmlFisher's distribution on the sphere. Proc. Austral. Math. Soc. Summer Research Institute, Hobart, January 1981. In *Contemporary*

Mathematics **9** (1981) 377–380. American Mathematical Society.

3. Fisher, N.I. — Graphical methods in Statistics: current and prospective views. Invited paper, *46th Session, International Statistical Institute* **46** (1987), 387–400.

4. Cameron, M.A. & N.I. Fisher — Graphical methods for the analysis of multivariate data with special reference to geochemical and geophysical data. Invited paper, *Computer Science & Statistics*, Proceedings of the 19th Symposium on the Interface, 1987, pp 181–189. ASA.

5. Baxter, R.I., M.A. Cameron, N.I. Fisher & B. Hoffmann — Using multiple views for data analysis. Invited paper, Computer Science & Statistics, Proceedings of the 23rd Symposium on the Interface (1991) 435–440.

6. N.I. Fisher — Adopting Quality Management in an R&D Environment. Invited paper. *pp.* 79-88 in *Proceedings of the International Conference on Statistical Methods and Statistical Computing for Quality and Productivity Improvement* (ISCQP'95) August 1995, Seoul, South Korea.

7. S.B. Dransfield, Fisher, N.I. & N.J. Vogel — Using statistics and statistical thinking to monitor and improve organisation performance. Invited paper, *Proceedings of the 51st Session, International Statistical Institute* Fisher, N.I. — Statistics and Performance Measurement. 1999 Knibbs Lecture.

9. Fisher, N.I. — Managing Industry-Science Relationships: An Approach via Performance Measurement. German-OECD Conference on Benchmarking Industry-Science Relationships. Berlin 16-17 October, 2000.

11. Fisher, N.I. — Mode-testing using excess mass. Third Hakata Symposium on Non-Linear Time Series and Related Topics. December 11-13, 2000, Fukuoka Soft Research Park, Japan.

12. Fisher, N.I. & Sparks, R.S. — Statistical Aspects of Tree-structured Value Surveys. Invited paper, *Proceedings of the 2nd International Symposium for Industrial Statistics* Kyoto Japan.

13. Fisher, N.I. — Statistics and Performance Measurement. Invited paper, *Proceedings of the 53rd Session, International Statistical Institute* Seoul, Korea.

15. Fisher, N.I. — Statistics and Performance Measurement: An Opportunity for Statisticians to Make an Impact. *Invited paper, 4th Conference of Asian Regional Section of the IASC, December 5-7, 2002 Busan, Korea.*

16. Fisher, N.I. — How can Statistics and statisticians help Vietnam prosper? CAPS-2008. *Keynote address. Hanoi, December 2008..*

17. Cribb, J & N I Fisher — Will they use my science? *Plenary address,* Pathfinders Conference, Canberra 26–27 May, 2009.

18. Fisher, N.I. — Who cares what I do? Address to attendees at the Prizes and Scholarship evening for the School of Mathematics and Statistics for 2011. http://www.maths.usyd.edu.au/u/About/Who%20cares%20about%20what%20I%20do-print.pdf.

19. Fisher, N.I. — Alan's Statistical Saga: from Chapel Hill to Highland Park, with some Unexpected Directions, an Optimal Bet, and Trees that Grow from People. Plenary address, 62nd Annual Meeting of the New Zealand Statistical Association, 28 – 31

August 2011, Auckland, New Zealand. Session in honour of Alan Lee's 65th birthday.
20. Fisher, N.I. — Statistics for the millions: How to communicate Statistics to the public. Keynote address, VvS&OR Annual Meeting, Utrecht, December 2011.
21. Fisher, N.I. — Statistics, Performance Measurement and Corporate Collapses. Opportunities for statisticians to have an impact. Keynote address, SASA Annual Meeting, Port Elizabeth, November 2012.
22. Fisher, N.I. — Statistics Education in Australia: *We need a revolution*. STEMS-2016, 2 June 2016, University of Technology Sydney. http://www.statsoc.org.au/wp-content/uploads/2016/04/STEMS2016-Report.pdf.
23. Fisher, N. I & Vogel, N. J. (2017) — Obituary: Myron Tribus. *http://magazine.amstat.org/blog/2017/10/01/obituary-myron-tribus/*.
24. 2019 Deming Lecture —Walking with Giants: A Research Odyssey. Video https://ww2.amstat.org/meetings/jsm/2019/webcasts/index.cfm; Slides https://www.amstat.org/ASA/Your-Career/Awards/Deming-Lecturer-Award.aspx.
25. Fisher, N I & D J Trewin — The Critical Importance of Expert Statistical Input in Managing Epidemics. Science for Resilience - Learnings from the Pandemic 23 – 24 May, 2022. Vienna Biocenter, Campus-Vienna-Biocenter 1, 1030 Wien.

8. WEBCASTS & PODCASTS

1. https://statsandstories.net/methods/measuring-performance

9. SOFTWARE PACKAGES

Development of a software package (SPHERE) which displays, rotates, contours, and performs basic statistical calculations on a sample of spherical measurements (vectors or axes).

10. PROPRIETARY METHODOLOGY AND TRADEMARKS
Lead developer of the OPM® (Organisational Performance Measurement) system. OPM® was licensed to the Australian Quality Council, taught at University of Wollongong and the Mount Eliza Business School, and adopted by a number of Australian enterprises. It is owned separately by R. Burke, N. I. Fisher & N.J. Vogel.

Australian Trade Mark # 959843 PMF® Performance Measurement System
Australian Trade Mark # 959823 SVM® Stakeholder Value Management
Opal® Performance Measurement System.

11. PROPRIETARY METHODOLOGY AND TRADEMARKS

1. Shepherd J., L.K. Rixon & N.I. Fisher — *Improved Methods of Forecasting Faults to Assist Underground Mining* 1989. Report to Australian Coal Association.
2. Hatherly, P.J., J. Shepherd, B.J. Evans & N.I. Fisher — *Integration of Methods for*

the Prediction of Faults. 1993. Report to NERDDC.

3. Fisher, N.I., J.H. Friedman, W.L. Griffin & F.V. Kaminski. — *Statistical Modelling and Prediction of the Structure of the Earth's Upper Mantle: a Framework for Mineral Exploration. I.* 1995. Report to DITARD.

4. Fisher, N.I., J.H. Friedman, W.L. Griffin & F.V. Kaminski. — *Statistical Modelling and Prediction of the Structure of the Earth's Upper Mantle: a Framework for Mineral Exploration. II.* 1997. Report to DITARD.

5. Fisher, N.I., J.H. Friedman & W.L. Griffin — *A New Approach to Data Mining of Massive Data Sets, with Application to Area Selection in Mineral Exploration*. 1999. Report to DITARD.

6. Fisher, N.I. & C.M. Malaguerra — *A Peer Review of EUSTAT (the Basque Statistics Office)*. 2003. 75*pp*. Confidential report to EUSTAT.

7. Fisher, N.I. & Peacock, A.J. — *ARC Engagement and Impact Consultation Paper: Response*. June 2016, 14*pp*. http://crca.asn.au/wp-content/uploads/2016/10/ARC-E-I-Response-CRC-Association.pdf

8. Fisher, N. I., Howley, P., Martin, M. A. & Ryan, L. (2016). Final report: *STEMS2016. Putting Statistics into STEM in the Age of Data. A Colloquium and Workshop organized by the Statistical Society of Australia, 2–3 June, 2016, at University of Technology Sydney*. http://www.statsoc.org.au/wp-content/uploads/2016/04/STEMS2016-Report.pdf

9. Fisher, N. I. (2016), *Statistical analysis of survey data collected from Catholic Church authorities*. Report to the Truth, Justice and Healing Council, December 2016.

10. Fisher, N. I. & A. J. Lee (2017), *Comments on the Weighted Average methodology*. Report to the Truth, Justice and Healing Council, January 2017.

11. Fisher, Nicholas & Stephen Sasse (2018), *Banking, Superannuation and Financial Services Industry Royal Commission Submission - Response to Interim Report.* https://financialservices.royalcommission.gov.au/Submissions/Documents/interim-report-submissions/POL.9100.2000.0011.pdf

12. IDSSP Curriculum team (2019), (Nicholas Fisher, Chair, Ajay Anand, Robert Gould, John Bailer, Tim Hesterberg, James Bailey, Raymond Ng, Wesley Burr, James Rosenberger, Alan Fekete, Neil Sheldon, Alison Gibbs, Chris Wild), *Progress Report to Societies supporting IDSSP*.

13. IDSSP Curriculum team (2019), *Curriculum Frameworks for Introductory Data Science*, http://www.idssp.org/files/IDSSP_Frameworks_1.0.pdf

14. "Some critical issues relating to Australia's strategy for international education". A submission in response to the Connected, Creative, Caring: Australian Strategy for International Education 2021-2030 Consultation Paper, March 2021.

15. Dennis Trewin & Nicholas Fisher (2022), Submission to "Audit of Australia's COVID-19 Rollout". 15*pp*.

16. Nicholas Fisher & Dennis Trewin (2022, Submission to the Royal Commission Enquiry into the Robodebt Scheme

12. SOME RECENT AND CURRENT PROJECTS

- Strategic Planning at Mellon College of Science, Carnegie-Mellon University, 2017). Implementation of Strategic Planning in the four departments at MCS, and for MCS itself.
- Strategic Planning at Pittsburgh Supercomputing Center.
- Introduction of a Culture Improvement process for Oxfam Australia.
- (with Dennis Trewin) *A proposal to enhance Australia's capability to manage epidemics. The critical importance of expert statistical input*. August 2020. Submitted to the Australian government PM&C. **DOI:** 10.13140/RG.2.2.31657.62565

13. CONFIDENTIAL CLIENT REPORTS – not listed.

14. RESEARCH GRANTS
1. Australian Coal Association: J. Shepherd, L.K. Rixon & N.I. Fisher. *Develop and Improve Methods of Forecasting Faults to Assist Underground Mining*.
2. NERDDC: P.J. Hatherly, J. Shepherd, B.J. Evans & N.I. Fisher. *Integration of Methods for the Prediction of Faults*. Project 1588.
3. Department of Industry, Technology and Regional Development Grant under the International Science & Technology Scheme: N.I Fisher, J.H. Friedman, W.L. Griffin & F.V. Kaminski. *Statistical Modelling and Prediction of the Structure of the Earth's Upper Mantle: a Framework for Mineral Exploration*.
4. Department of Industry, Technology and Regional Development Grant under the International Science & Technology Scheme: N.I. Fisher, J.H. Friedman & W.L. Griffin, *A New Approach to Data Mining of Massive Data Sets, with Application to Area Selection in Mineral Exploration*.
5. ARC Small Grants Scheme, A.J. Baddeley & N.I. Fisher, *Stochastic Modelling and Extrapolation of Geological Fault Patterns*.
6. Australian Academy of Science Travel Grant.
7. International Seminar Support Scheme Travel Grant, 2008

15. PhD SUPERVISION
Co-supervision with P. G. Hall:
   Davies, S. J. (1998), *Stochastic Analysis of Surface Roughness.*

16. TECHNICAL REPORTS
1. Notes on the general linear model and related distribution theory. CSIRO Technical Paper No. 8, April 1972 (with G.M. Tallis).
2. Extended figures and tables for the inter–comparison of faults, roof failure and mining rate in a New South Wales Colliery. CSIRO MRL Investigation Report
3. 125 (1978) 16pp and Figs (with J. Shepherd).
4. Graphical methods in non–parametric statistics: an annotated bibliography. Report Series No. 141, Department of Mathematics, University of Auckland (1979) 32 pp.
5. Smoothing time–ordered sequences of palaeomagnetic pole positions.
6. Confidence intervals for the mean direction and circular median.
7. A robust test for comparing the dispersions of two or more Fisher distributions on the

sphere.

8. Calculation of elliptical confidence regions for principal or polar axes.
9. An edging tool (with R.L. Sandland).
10. Smoothing a sample of measurements.
11. Confidence regions for mean vectors: preliminary report.
12. Testing samples of pH data for multimodality.
13. Statistical analysis of coal samples.
14. Combining independent P–values when sample sizes are known.
15. Analysis of relationship between Haplotype and LQT using comparison of siblings.
16. Possibilities for further statistical quality control measures for the paper tape and scouring pad manufacturing processes (with R.L. Sandland) (No. 86/24/9).
17. Audit of the non–woven fabric process (with R.L. Sandland) (No. 86/36/11).
18. Investigation of Roof/Floor Convergence at Goaf Edge Sites during Pillar Extraction – A Preliminary Analysis (with T. Lewis).
19. Analysis of relationship between Haplotype and LQT using comparison of siblings.
20. Analysis of multimodal sets of two–dimensional orientation data (with J.S. Marron).
21. An investigation into modelling fracture patterns of dykes and faults at Gunnedah Colliery (with A.J. Baddeley).
22. Statistical analysis of chromites: an application of modern multivariate statistical methods (with J.H. Friedman & W.L. Griffin).
23. Statistical techniques for classification of chromites in diamond exploration samples (with J.H. Friedman & W.L. Griffin). Exploration and Mining Report 127R, April 1995.

17. MISCELLANEOUS UNREVIEWED ARTICLES

1. Statistics Education in Australia: The Ongoing Saga of SSAI Strategic Objective 6. SSAI News March 2010. Available at https://www.statsoc.org.au/resources/Documents/Newsletters/2010-March-SSAINews130.pdf.