

## Prof Nigel Bishop



### BIO

Nigel Bishop was born in England, and studied at the University of Cambridge. He was tutored by someone who would become the most famous relativists of our time, Stephen Hawking. He obtained the BA (Honours) degree in mathematics, and moved to the University of Southampton obtaining the PhD degree in 1976. At the same time he was elected a Fellow of the Royal Astronomical Society.

He was appointed to a Lecturer position at the University of the Witwatersrand, and his first appointment as full Professor was at UNISA in 1992. In 2009 he moved to Rhodes University as Professor and Head of Department of Mathematics. He retired in 2016, and is currently Emeritus Professor

He has held several visiting appointments: England: University of Cambridge, University of Southampton; Germany: Max-Planck Institute for Gravitational Physics; India: Inter-University Centre for Astronomy and Astrophysics; Turkey: Sabanci University, USA: University of Pittsburgh, Louisiana State University, California Institute of Technology.

He has served as President of the South African Gravity Society. For many years he has been on the Council of the South African Mathematical Society, serving two terms as President. Internationally, he serves on the Council of the International Society on General Relativity and Gravitation.

### RESEARCH INTERESTS

He is the author or co-author of over 70 scientific publications, and 3 books. The subjects of this work range from mathematical analysis to computer programming, from quantum gravity to discoveries about the horizons of black holes, and from cosmology to the theory of travel faster than light. However, for about the last 30 years the focus of his work has been on gravitational waves, and in particular how they are calculated.

### DISCIPLINE

Astronomy/Astrophysics

### TOP 10 PUBLICATIONS

N T Bishop & P T Landsberg, *Equivalence Principle - 60 years of a misuse?* Nature 252 459-460 (1974)

N T Bishop, *The closed trapped region and the apparent horizon of two Schwarzschild black holes* Gen. Rel. Grav. 14 717-723 (1982)

N T Bishop, *Is superluminal travel a theoretical possibility?* Found. Phys. 14 333-340 (1984)

N T Bishop, *Numerical relativity: combining the Cauchy and characteristic initial value problems* Class. Quant. Grav. 10 333-341 (1993)

N T Bishop, R Gomez, L Lehner, M Maharaj & J Winicour *High-powered gravitational news* Phys. Rev. D 56 6298-6309 (1997)

N T Bishop, *Linearized solutions of the Einstein equations within a Bondi-Sachs framework, and implications for boundary conditions in numerical*

*simulations*, Class. Quant. Grav. 22 2393-2406 (2005)

C Reisswig, N T Bishop, D Pollney and B Szilagyi, *Unambiguous determination of gravitational waveforms from binary black hole mergers*, Phys. Rev. Lett., 103 221101 (2009)

H L Bester, J Larena & N T Bishop, *Towards the geometry of the Universe from data* Mon. Not. R. astr. Soc. 453, 2364-2377 (2015)

N T Bishop & L Rezzolla, *Extraction of Gravitational Waves in Numerical Relativity* Living Rev. Relativity, Living Rev. Relativity, <http://dx.doi.org/10.1007/s41114-016-0001-9> (2016)

NT Bishop, PJ van der Walt and M Naidoo, *Effect of a low density dust shell on the propagation of gravitational waves* arXiv:1912.08289, Gen. Rel. Grav. 52 92 (2020)

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