Sergio Salbany and his mathematical legacy

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A R T I C L E   I N F O

A B S T R A C T

This article gives a brief outline of the life of Sergio Salbany (1941–2005) and of his mathematical career, coupled with his social outreach and political activity in South Africa until 1980, in Zimbabwe 1981–1992, in Botswana 1993–1997, and finally again in South Africa 1997–2005. We include a list of his mathematical publications. Salbany was best known for his research in the area of asymmetric topology, comprising topics such as bitopological spaces, quasi-uniform spaces, ordered spaces and quasi-pseudometric spaces. His publications in this area were essentially the first that explicitly described the functors that served to clarify the structure and aims of the then novel theory.

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1. Outline of life and career (1941–2005)

Sérgio de Ornelas Salbany was born on 16 August 1941 in Lourenço Marques, the capital of the then Portuguese colony (later "province") Moçambique. After much suffering and struggle Mozambique (as spelled in English) became independent in 1975. The capital was renamed Maputo. The Salbany family were Portuguese.

Sérgio received most of his schooling in neighbouring South Africa. Studying at the University of the Witwatersrand in Johannesburg from 1961, he received the degree of B.Sc. (Honours) in Mathematics in 1964.

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He worked there as Junior Lecturer during 1965. He then went to study at the University of Cape Town (UCT), where he held a tutorship from 1966 till January 1968, followed by a Messina Research Fellowship till December 1970. From 1966 onward at UCT there was a seminar on Category Theory and Topology, led by Keith Hardie and Hartmut Schlagbauer. Sérgio had Hartmut as supervisor for the M.Sc., which was conferred (with distinction) in 1968. His thesis for this degree gave him a good grounding in the theory of uniform and proximity spaces and the category-theoretic properties of completions and compactifications. In 1970, still at UCT, he received the Ph.D. in Mathematics with Keith Hardie as supervisor. Sérgio's thesis was titled "Bitopological spaces, compactifications and completions". It was recognised as a major advance in its field, and there were many requests for copies. So, at Keith Hardie's suggestion, the thesis was published in 1974, unchanged except for minor corrections, as the first issue of a series *Mathematical Monographs of the University of Cape Town.*

At UCT, Salbany was Lecturer (January 1970–December 1973), then Senior Lecturer (1974–1980). Thereupon he relocated to the University of Zimbabwe in Harare, where he was Senior Lecturer (1981–1983), then Professor (1984–1992). Next, for the sake of his children's education and careers, he went to the University of Botswana, as Professor and Head of Department until October 1997. Finally, he was appointed as Professor of Mathematics at the University of South Africa (Unisa, in Pretoria) from November 1997. His department seconded him from January 2004 to the "deanery" as Vice-Dean of the Faculty of Science.

Throughout all these years and upheavals Sergio (soon spelled without the diacritic) was constantly deeply involved in research, often with collaborators. His first sabbatical year was 1976, the first half as visiting professor at the University of Oporto, the second half as visiting professor at Oxford. In 1985 he had a term as Fulbright Scholar at the University of Southern Illinois at Carbondale; in 1986 as DAAD Research Fellow at the University of Bremen; in 1988 giving lectures on bitopology at Louvain la Neuve, and at SISSA in Trieste giving talks on Non-Standard Analysis; and in the first term of 1991 teaching engineers at Toledo (Ohio). Sergio visited Salvador Romaguera at the Universidad Politécnica de Valencia in 1985, 1988, 1992, 1998; they had at least ten joint publications; the same university hosted Sergio as a keynote speaker at the 3rd Ibero-American Congress on Topology on their Gandia campus in 1999.

After the turn of the century Sergio suffered intermittently from leukaemia. We had made arrangements for him to speak at a conference on Applicable General Topology at Hacettepe University in Ankara in August 2001, but he was unable to come. I was deeply moved by a telephone call from Sergio in November 2004, when he was rather ill, to congratulate me on my 70th birthday and, of course, to discuss research. He passed away at his home in Pretoria on 17 September 2005.

2. Visionary mathematician, teacher and activist

While Sergio was a student and young academic, South Africa and countries around were in turmoil with the freedom struggle, revolutions and war. Mozambique, after independence (1975), suffered civil war (1977–1992). Zimbabwe's independence (1980) and that of Namibia (1992) were both achieved at huge cost in suffering and destruction. Botswana, more peaceful, had already received its independence from Britain in 1966.

In this setting, Sergio was true to himself, his duties, and his conscience; always passionately and totally committed to everything he did; always in a hurry but always calm, courteous, charming and, where it mattered, in control of a situation. His students admired and loved him for his inspired teaching and the generous time he gave to helping them. He and his wife Lucilia already had two sons in 1970, the year of his Ph.D. His research work was demanding and the output impressive in the given context. But the other integral part of his life was his social conscience and social outreach, amounting to what in those days was called activism. I noticed very little at the time, but looking back, I know he took considerable risks. I had arrived at UCT as Lecturer (without Ph.D.) in 1965, and he as student in 1966; I was seven years older. Our interests in General Topology soon overlapped. Many times he solved questions that I posed;