Jean Willy André Cleymans (1944 – 1921) 22 February 2021



Jean Cleymans, a pioneer in the study of ultrarelativistic heavy-ion collisions and a leader of the South Africa – CERN Collaboration. He passed away on 22 February 2021 in a tragic accident in his hometown, Turnhout in Belgium.

Jean was not only a most distinguished theorist in the field of high energy nuclear collisions; he also played a crucial role in establishing and operating several large international collaborations, bringing together CERN, Dubna, GSI, iThemba labs, and a number of universities.

He had initiated and played a leading role in establishing the South Africa - CERN and South Africa - JINR Dubna program, and the participation of South Africa in the ALICE collaboration.

Jean was a member of the Program Advisory Committee for Particle Physics at JINR Dubna.





Jean was born on August 5, 1944, in Turnhout. He studied physics at the University of Louvain, where he received his doctorate in 1970. Subsequently, he worked as Humboldt-Fellow in Aachen (Germany), as NATO Fellow at SLAC (California), and as CERN Fellow. From 1975 to 1986, he was at the University of Bielefeld (Germany), where he carried out his Habilitation in 1977 and subsequently became Extraordinary Professor.

In 1986 he moved to Cape Town, where in 1988 he was appointed as Full Professor of Theoretical Physics.

The development of theoretical physics there, the training of young students in high energy physics, and the connection of South Africa to international research is to a very large extent the work of Jean.





Jean made seminal contributions to numerous areas in heavy ion physics. Of particular impact was his work on the statistical description of hadron production in nuclear collisions; his pioneering work effectively started the approach.

His numerical code for the analysis of hadron multiplicities remains an essential tool for experimental studies, and in recent years has opened_-up new perspectives with the availability of high precision experimental data at RHIC and LHC.

He published more than 300 papers in leading physics journals.





Jean has been instrumental in organizing numerous conferences and workshops in the field, as well as acting as a member of a number of important international advisory committees. He was a prominent member of the former Hard Probes Collaboration which provided the foundation for future collaborative work in that area. He has organized wellreceived meetings in South Africa, bringing experts from throughout the world there and establishing connections with South African researchers.





Jean has done much to make the field attractive to students and young scientists. He was an inspiring and passionate teacher and supervised 24 M.Sc. and 17. Ph.D. candidates.

"One of his former postgraduates and long-time collaborators, Azwinndini Muronga, now the dean of Science at Nelson Mandela University, remembers Jean as having "qualities of excellence and humanising pedagogy – excellence with purpose"."

By joining the ALICE Collaboration and establishing first the UCT-CERN Research Centre and then the national South Africa—CERN program, he reached even more students, researchers, and academics. Even after becoming Professor Emeritus of the University of Cape Town in 2010, Jean continued to lead these initiatives and saw them grow into a vibrant high-energy physics community in South Africa with strong links to CERN.



For his achievements, Jean has received numerous honors –

in 1993 he was elected Fellow of the Royal Society of South Africa,

in 1999 he received the prestigious Alexander-von-Humboldt Research Prize,

in 2000 the Prize of the Polish Ministry of Education for Research Excellence, to cite just three here.



Jean was always receptive to new ideas and willing to enter joint work with others. His attitude was always inspirational and creative. In this process, he had close friends and collaborators in many parts of the world.

On 22 February, the field has certainly lost one of its great and inspiring leaders, just as we have lost a Great Friend.