**CITATION: David Glasser**

Professor David Glasser has had a remarkable career as a teacher, researcher and academic leader at Wits. David has served the University with distinction as a staff member since 1964 and it is in acknowledgement of this distinction that he is presented for an Honorary Doctorate from this University.

David Glasser obtained his BSc degree in Chemical Engineering at the University of Cape Town, and his PhD at Imperial College, London. He returned to South Africa to take up a lecturing position at Wits, where he remains an active member of the academic staff to this day.

With his early research work, David distinguished himself internationally by undertaking ground-breaking research on the problem of spontaneous combustion of coal and coal wastes in mines. He worked as a consultant with the Grotegeluk Coal mine in Limpopo and the Leigh Creek Mine in South Australia to develop strategies in mining methodologies to reduce the risk of spontaneous combustion as well as dealing with such combustion when it did occur. His research work pointed to simple tests to check the liability of the mined material for spontaneous combustion. He also designed and instrumented large-scale tests to generate results that were used to guide the design and management of full-scale coal dumps. Much of the current approaches to dealing with the problem of spontaneous combustion at coal mines, both in South Africa and many parts of the world, are based on David Glasser’s original research and development work.

Together with his long-time research colleague, Professor Diane Hildebrandt, David founded the Centre for Material and Process Synthesis. This research group has distinguished itself in its ability to do ground breaking research and make the commercial parts of the research available to industry as quickly as possible. Their research work has resulted in a pilot coal-to-fuel plant in Baoji China being successfully conceptualised, designed, commissioned and run by the Centre. A demonstration plant in Australia was also successfully conceptualised and designed by the Centre. In 2010, the Centre won the National Science and Technology Forum’s Annual award for innovation.

David has long held an NRF A1 rating, as assessed by his global peers, acknowledging him as a world-leading researcher in his field. He has published more than 100 papers in international journals, has 4 patents in the review process and has recently published a ground-breaking book. His pioneering work on Attainable Regions is widely referenced and is contained in most modern textbooks on chemical reactors and process design as well as in teaching materials at many universities throughout the world.

His most recent work on Process Synthesis focuses on reducing carbon dioxide emissions from chemical plants. This work has been recognised by the international scientific community in the form of an invited article in the journal Science and another in the American Institution of Chemical Engineers Journal. For this work, David and his team were also finalists in the 10xE challenge of the American Institution of Chemical Engineers for the most innovative ways to make a significant impact on energy efficiency and carbon dioxide emission reduction.

In recognition of his outstanding research work he has been awarded the Bill Neale-May Gold Medal of the South African Institution of Chemical Engineers (the first time it was given to an academic), the inaugural Harry Oppenheimer Memorial Gold Medal and Fellowship, and the Science-for-Society Gold Medal of the Academy of Sciences of South Africa. He was also invited to give the keynote address at the American Institution of Chemical Engineers Conference in July 2010 in the US. He has spent periods of sabbatical at the City College New York, University of Houston, as Hooker Distinguished Professor at McMaster University Canada, University of Sydney, University of New South Wales and Princeton University.

David has also been an outstanding teacher and an academic leader who has continued to serve the University when called to do so. He served as Head of the Department of Chemical Engineering and was one of the key members of the team that saw Chemical Engineering and Metallurgy join to become the School of Chemical and Metallurgical Engineering. He also served as Dean of the (then) Faculty of Engineering for three years. In addition to being a long-standing Senate member, David served on the Council of the University for 10 years.

During his tenure as Dean in the early 1990’s, he focused greatly on academic development programmes aimed at increasing the numbers and success rates of black students in the Faculty. He arranged for the Faculty to take over the Anglo-American cadet scheme, a full year pre-university programme for young black engineering students, who had potential, to help prepare them for university.

Throughout his time at Wits, David helped to modernise the chemical engineering programme. He took a particular interest in introducing optimisation and mathematical modelling into the course and in a more fundamental approach to the teaching of thermodynamics. Indeed, he published two papers on a new approach to teaching thermodynamics in the Journal of Chemical Engineering Education. He also helped to develop numerous short courses, with both local and international accreditation, that have been presented to industry.

David is a Fellow of the South African Institution of Chemical Engineers, a Fellow of the Royal Society of South Africa, a member of the Academy of Sciences of South Africa, a Member of the American Institution of Chemical Engineers and a registered Professional Engineer. He was for many years a member of Council of the South African Institution of Chemical Engineers and served both as its Vice-President and its President. He also served for many years on the Professional Advisory Committee of the Engineering Council of South Africa.

Although David retired in 2004, he continues to help supervise research students, develop and teach post-graduate courses, oversees research contracts, and maintains an impressive publishing rate.

Professor David Glasser has and continues to stand as one of the world’s intellectual leaders in chemical engineering. It is for this reason that we believe him deserving of an Honorary Doctorate from the University of the Witwatersrand.