

WITSIE AT THE CUTTING EDGE: Researcher Profile

Professor Charles Feldman

Director: Pulmonary Infection Research Unit



Who are you and what is your academic/scientific training and background?

I am currently Professor of Pulmonology and Chief Physician, Charlotte Maxeke Johannesburg Academic Hospital and University of the Witwatersrand. I obtained my MBBCh degree at the University of the Witwatersrand, in 1975 and served internship at Johannesburg Hospital. I subsequently did my fellowship training in Internal Medicine at Johannesburg Hospital and received his FCP (SA) in 1981. I received my PhD in 1991 for a thesis entitled "Aspects of Community-acquired Pneumonia" and a D.Sc in 2009 for a thesis entitled "Contributions to an Understanding of Community-acquired Pneumonia". I was registered as a sub-specialist in Pulmonology in 1993 and was elected to the Fellowship of the Royal

College of Physicians (FRCP) in 1997. In 1988/89 I was a Research Fellow and Honorary Senior Visiting Colleague, in the Host Defence Unit, Department of Thoracic Medicine, National Heart and Lung Institute, and Royal Brompton Hospital, London, United Kingdom. I am a member of a number of national and international societies, and have been President of the South African Thoracic Society on two previous occasions. I was made an Honorary Fellow of the South African Thoracic Society for my contribution to respiratory medicine in South Africa and a Honorary member of the Federation of Infectious Diseases Societies of Southern Africa for my contribution to infectious diseases in Southern Africa, both in 2009. I have also received the Presidential Award for my contribution to Critical Care in Southern Africa in 2003. I am an NRF A2 rated scientist and I was also awarded the Vice Chancellors Research Award of the University of the Witwatersrand in 2009.

Explain the nature of the research that you are currently undertaking.

I do both basic and clinical research. My clinical research is related to the topic of community-acquired pneumonia, especially pneumococcal pneumonia, and particularly in the setting of HIV infection. For my clinical research I am a member of a number of multicentre international collaborations investigating various aspects of pneumonia and pneumococcal infections. These collaborations have been ongoing for a number of years. With regard to basic research, I have done this almost exclusively in collaboration with Professor Ronald Anderson at the University of Pretoria; I have been investigating aspects of airway inflammation, including both infective and other inflammatory mechanisms. With regard to the infective mechanisms these have previously involved investigating the interaction of the pneumococcus and its virulence factors with human ciliated epithelium and the ability of antibiotics, such as the macrolide class, to attenuate these effects. More recently I have been investigating the effects of sub-MIC doses of the macrolides on the pneumococcus itself, investigating effects on virulence factor production and gene expression.

What do you think is the most pertinent/relevant/significant contribution you have made to research/science/your field?

The research I have been undertaking is in the field of community-acquired pneumonia, which is one of the most important infectious diseases worldwide, and is associated with considerable morbidity and mortality in both adults and children. Furthermore, the pneumococcus is the commonest bacterial cause of pneumonia. The research has not only contributed to understanding the interaction of the pneumococcus with the host and with antibiotic therapy (basic research), but also various aspects of the

clinical manifestation of pneumonia and its treatment (clinical research). The findings of the research have contributed to clinical practice by informing pneumonia guideline recommendations, both locally and internationally.

Did you have a particular mentor or supervisor who inspired you in research?

I have been fortunate to have had a number of mentors who have inspired my research. Initially it was Professor Bothwell, previous Professor of Medicine, who encouraged me to undertake a PhD, and assisted me with it. The period of time spent at the Brompton Hospital in London, under the guidance of Professor Peter Cole and Dr Robert Wilson, inspired my passion for basic research and started interest in pneumococcal virulence factors. On returning to South Africa I began to collaborate with Professor Ronald Anderson, from the University of Pretoria, and this collaboration under the guidance of Professor Anderson allowed me to continue the basic research started in London. This is an ongoing and extremely productive collaboration. Lastly, Professor Cleaton-Jones inspired me to even greater heights and encouraged and assisted me in obtaining a D.Sc.

Tell us about what you do when you're not busy at work and carrying out cutting-edge research.

When I am not working I relieve my stress through interaction with family and through sport. I am an avid tennis player and have been since my early school days. I currently play as often as possible at a local tennis club, of which I am a member. More recently I have taken up golf and continue to struggle with that game. Whenever there is a more considerable amount of down-time, such as during holidays, I do water colour painting.

[Read one of Charles' papers:](#) Feldman C, Anderson R. Bacteraemic pneumococcal pneumonia: current therapeutic options. *Drugs* 2011; 71: 131-153. This article is a review article in the area of Professor Feldman's research interest which also references a considerable number of his publications in this area.