

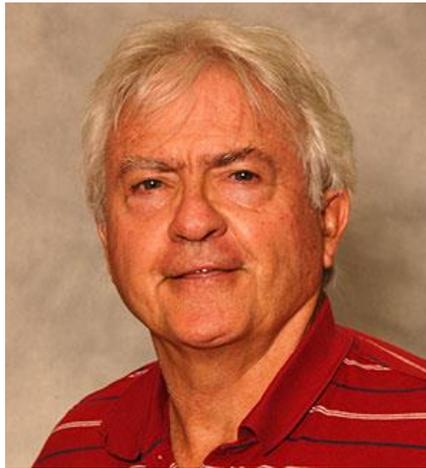
## **Barry T. Rouse**

Lindsay Young Distinguished Professor of Microbiology

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### **Short Bio;**

Prof. Rouse received his Bachelor degree from University of Bristol in 1965, M.Sc. from University of Guelph in 1967 and Ph.D. from Walter and Eliza Hall Institute of Medical Research in 1970 and a honorary D.Sc. from University of Bristol in 1997.

Professor Rouse has published more than 400 research papers and book chapters.

### **Areas of Research;**

Professor Barry Rouse's research is in the field of infectious disease and has focused on viral immunology and immunopathology. He has mainly studied herpes simplex virus (HSV) infection in mice both with a view to devising successful vaccines and more particularly to determine how HSV causes tissue damage in critical tissues such as the eye and nervous system. Professor Rouse worked on both host innate and adaptive immune mechanisms, particularly the T cells responsible for immunity as well as those involved in orchestrating tissue damage. He has defined the role of several subtypes

of proinflammatory T cells as well as numerous cytokines and chemokines. His group was the first to show a role of regulatory T cells (Treg) in the host response to a virus infection demonstrating that Treg responses could act to inhibit the efficiency of immunity, but that Treg were valuable to modulate the severity of immunopathological responses, such as those that occur in the corneal stroma after HSV infection of the eye. Dr. Rouse's group has studied the important blinding lesion herpes stromal keratitis (SK) for >30 years and has demonstrated how multiple events set off by ocular HSV infection culminate in SK. They have paid particular attention to the non-specific inflammatory cells, particularly neutrophils, that are recruited to the eye and which appear to be mainly responsible for the tissue damage that occurs. Dr. Rouse's group was also the first to show a critical role for corneal neovascularization (CV) during SK pathogenesis, identified several angiogenic factors and studied how such factors are generated following HSV infection. Recently, they have also investigated various ways of modulating the extent of proinflammatory T cell involvement during SK with a view to understanding how to optimally achieve lesion resolution. The basic objective is now to find convenient ways to change the balance of T cell subsets involved in inflammatory reactions to favor those with an anti-inflammatory function. To this end, Dr. Rouse's Group became involved in manipulating metabolic pathways since different cell subtypes use different pathways.

### **Honors and Recognitions;**

Professor Rouse extensive experience on NIH study sections since 1978. He has served 3 cycles as a permanent member of study section (virology 1986-88, AIDS and Related Viruses III 1988-92 (chairman 1989-92), Immunology and Host Defense study sections (IMS) 2001-05. In the last 25 years he has served at least once (often 5) per year as an ad hoc member of a wide variety of study sections for NIH and the VA. Prof. Rouse is on the editorial board of several journals and has been a co-organizer and participant in Keystone and Herpesvirus meetings. He has spent sabbatical leave in Germany with Hermann Wagner, the John Curtin School, Canberra with Peter Doherty, the Scripps Research Institute with Frank Chisari and Emory University with Rafi Ahmed. Prof. Rouse is a member of ARVO, AAI and ASM

Prof. Rouse has trained >75 graduate students and postdoctoral fellows.

Among the honors and awards;

1981-82 Fogarty Senior International Fellowship, at Johannes Gutenberg University, Mainz  
1981-82 Alexander von Humboldt Fellowship  
1986 University of Tennessee Chancellor's Scholar Award  
1986 Hollister-Stier Distinguished lecturer. Coll. Vet. Med., Washington State, Univ. Mar  
1989, 1992, 2013 Beecham Award for Research Excellence  
1986 Visiting Fellowship, John Curtin School, Australian National University  
1997 DLT Smith Visiting Professorship, University of Saskatchewan, Canada  
1998 J.H. Subak-Sharpe Lecture, International Herpes Virus Workshop, York, England  
1998 Elected Member of Henry Kunkel Society  
2000 Invited Visiting Professor, ST. George University, Grenada  
2001 Alcon Award for outstanding contributions to vision research  
2002 Dolph Adams Award for Leukocyte Biology Society for most cited paper 1995-2000  
2005 R.G. Thompson Lecture. Atlantic Veterinary College, Charlottetown, PEI, Canada  
2013 Scholars in Vision Special Seminar, University of Pittsburgh  
2013 Member of Faculty 1000 prime (Faculty Member Faculty of 1000 since 2001)  
2014 Medal of Merit Warsaw University of Life Sciences, University of Poland  
2015 Opendra Narayan Lectureship, International Society of Neurovirology. San Diego.  
2018 Lifetime achievement award in research by American Veterinary Medical association.