

University of Johannesburg's Maneschijn commences aeronautics research project

Dr Anton Maneschijn, senior lecturer in mechanical engineering design at the University of Johannesburg (UJ), has received funding from UJ for an aeronautics research project. This is the first funding received for the project and will cover essential material and equipment for the initial phase of the project.

The objective of the research is to establish an aerospace capability in the Department of Mechanical Engineering Science (DMES) at UJ, with the specific focus on developing typical mechanical engineering aspects of aeronautics, such as structures, mechatronic systems for drones, and control systems. This project is also a tribute to the invaluable contributions that Prof Japie van Wyk made to DMES during his tenure at UJ.

Maneschijn's research proposal is a continuation of work done by 3rd and final year mechanical design and research students under his supervision during 2018. The example of introducing undergraduate students to this type of work was borrowed from a similar approach by the University of Pretoria. In technical terms, the project is aimed at using existing aircraft design and construction techniques to develop a large-scale radio-controlled model, and subsequently a full-scale light aircraft, and to use this work to expose students to the uniqueness of aeronautics engineering.

Although the work of the undergraduate students provides valuable data, formal research at postgraduate level is required to achieve results that can be used in industry. At present, Maneschijn is supervising two MEng students as part of this project, although there is more than sufficient scope to keep more postgraduate students occupied in different fields of interest.

Maneschijn started his aeronautical career with a BSc (Mech Eng) from the University of the Witwatersrand, after which he did external ballistics work with Naschem, authored a recreational aircraft design book, carried out aircraft development and airworthiness work, and contributed to civil aviation legislation and policies. He obtained an MSc (Aero Eng) from the University of the Witwatersrand in 2002 for a dissertation on engineering policy in the SA Air Force. In 2010 he received a PhD from Stellenbosch University for a thesis on airworthiness criteria for unmanned aircraft systems.

He has been a member of the Aeronautical Society of South Africa and the Royal Aeronautical Society (RAeS) since 2005. In June 2016, he was elected as a Fellow of the RAeS.