

## The School of Engineering

In celebration of the launch of the UKZN  
Aerospace Systems Research Institute (ASRI)

cordially invites you to attend a

# PUBLIC TALK

## Forging an African Space Launch Capability

– the Story of the Aerospace Systems  
Research Institute

by

**Professor Michael Brooks**

Director: ASRI, UKZN



**29 APRIL**  
Monday 2024



17h30 for  
18h00



Senate Chamber, UKZN  
Westville Campus

[CLICK HERE](#)  TO RSVP

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INSPIRING GREATNESS

**SYNOPSIS:** For fifteen years UKZN engineers have been researching the machines that fly higher and faster than any other, but what does it really take to design, build and fly rockets? In this lecture, we introduce the Aerospace Systems Research Institute (ASRI) to the UKZN community and explain how our engineers go about their work. With the help of UKZN and the Department of Science and Innovation, ASRI personnel are working towards the development of a home-grown commercial launch vehicle that is designed to place satellites in orbit from South African soil. The science of rocketry is technically challenging and requires the development of an entire ecosystem of technologies and capabilities. Join us as we go behind the scenes of this high-tech enterprise, and gain a glimpse into the world of real rocket science.



**ABOUT THE SPEAKER:** Professor Michael Brooks is the founding Director of the Aerospace Systems Research Institute and an associate professor in UKZN's Mechanical Engineering discipline. His undergraduate degree is from the University of Natal and he holds MScEng and PhD degrees from Stellenbosch University. His research interests include thermal management systems, solar radiometry and rocket propulsion. Professor Brooks is a member of both the South African Institution of Mechanical Engineering (SAIME) and the Aeronautical Society of South Africa (AeSSA), and is a registered Professional Engineer. He co-founded ASRI's forerunner, the Aerospace Systems Research Group in 2009 and is a former programme manager of the ASReG Phoenix Hybrid Rocket Programme. He is a senior member of the American Institute of Aeronautics and Astronautics (AIAA), a Fulbright scholar and a Fellow of the Royal Aeronautical Society.

**ABOUT ASRI:** The Aerospace Systems Research Institute (ASRI) is located in UKZN's Discipline of Mechanical Engineering and was formally established by the Council of the University in 2022. Its forerunner, ASReG, was established in 2009 to conduct applied research in aerospace engineering and develop highly skilled engineers for the South African economy. ASRI now runs one of the largest university-based aerospace research programmes in South Africa and focuses on the design, development and testing of aerospace propulsion and flight systems, including rocket engines, turbopumps and turbomachinery, suborbital and orbital (space) launch vehicles and novel propellants. Since 2009, UKZN engineers have built and tested numerous research rocket motors and flown several suborbital rockets. Notable technical achievements include the establishment of a new African altitude record for suborbital hybrid rockets, the development and testing of the most powerful university-built liquid rocket engine on the African continent and the development of unique ground test facilities for hybrid and liquid (cryogenic) rocket propulsion systems. All of these activities are aligned with ASRI's driving aim to develop an indigenous, commercial space launch capability for the Republic of South Africa. The institute receives support for its research from the Department of Science and Innovation.



Aerospace Systems  
Research Institute

