



**Royal Society of New Zealand Wellington Branch, in association with the
Royal Society Te Apārangī, presents a free public lecture.**

Hydrogen for Rocket Propulsion

Angela Krenn

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NASA Space Technology Mission Directorate**

Monday 2 December 2024

**6.00 - 7.00 pm at the Royal Society Te Apārangī premises,
11 Turnbull St, Thorndon, Wellington**

Abstract

NASA pioneered the use of hydrogen for rocket propulsion systems and continues to push the envelope for its use today. Beginning with the Saturn IV, continuing through the Space Shuttle Program, and still in use as part of the Space Launch System, liquid hydrogen has been an instrumental part of achieving NASA missions. Standard practices for safe handling and operations have been developed through the many years of experience. Even so, NASA has a bold vision for improved use of hydrogen into the future.

Novel technologies to enhance ground storage of liquid hydrogen have been developed and implemented. In parallel, numerous technologies are being developed to enable long-duration cryogenic fluid management in space. Leveraging their rich history of hydrogen use, NASA also collaborates with industry and other government agencies with the goal of furthering hydrogen use in terrestrial transportation systems.

We hope to see you there. If you wish to attend more such interesting lectures and discussions about important issues, please join the Wellington Branch.

You can join through our website and you will be very welcome.

David Lillis

Royal Society of New Zealand Wellington Branch

<https://www.royalsocietyofnewzealandwellingtonbranch.org/>

Biography of Angela Krenn

Angela Krenn has over 20 years of experience at NASA's Kennedy Space Center and is currently supporting NASA's Space Technology Mission Directorate as the Deputy Chief Architect. In this role, Angela develops strategies to ensure proper technology development and infusion. She has expertise in operations, design, analysis, research and technology development related to cryogenic systems for ground and space applications.

Angela also has experience with space architecture development, surface systems integration, and thermal management for moderate and high temperature applications. Angela has a Bachelor of Science in Aerospace Engineering from Embry-Riddle Aeronautical University and a Master of Business Administration and a Master of Science in Physics from the University of Central Florida.