



The
Andy
Thomas
Space
Foundation

cosine |

2022 Winners of the Andy Thomas Space Foundation and cosine Remote Sensing Project Award

13 September 2022

The Andy Thomas Space Foundation for the first time have partnered with Netherlands based company, cosine to provide a bilateral scholarship opportunity for Australian based PhD students and early career researchers. Through this partnership they are pleased to further promote international collaboration and expertise within the Earth Observation related sector of the global space industry as they today announce the winner of the Remote sensing project awards, or more commonly known as the 2022 Pluto award.

We would like to extend our sincere congratulations to Kathiravan Thangavel, a PhD student and SmartSat CRC researcher based at the Royal Melbourne Institute of Technology (RMIT). Kathiravan's research proposal, titled: 'Hyperspectral data processing in wildfire detection and rescue operations using Artificial Intelligence', offered a challenging and novel approach to contribute to an area of high impact across the globe.

Kathiravan's research will contribute heavily to an Australian Space Agency priority area, being Earth Observation technologies for on earth applications. A market that according to Industry Growth Insite association, is expected to grow from USD 9.5 billion in 2018 to USD 21.8 billion by 2030. This impressive market growth can be attributed to the increasing demand for earth observation data and value-added services (VAS) across different applications, including agriculture, defence, Disaster Management, and energy alongside increased investments in earth observation infrastructure by governments and private organisations.

The ATSF and Kathiravan this evening had the opportunity to meet with and discuss the upcoming research project in the great company of the team at cosine. Kathiravan will have the opportunity to visit cosine, an organisation based in the Netherlands and engage with local industry, as part of his AUD \$15,000 award. Kathiravan has said of the award that 'it is my profound privilege to have been chosen as the winner of the Andy Thomas Space Foundation's cosine Remote Sensing 2022 Award... through this experience, I am eager to continue learning, develop myself and start making a contribution to the aerospace sector.

ATSF CEO Nicola Sasanelli shared his thoughts on the exciting international opportunity saying, 'We feel a great sense of pride in commencing our collaborations with international organisations, such as cosine, which intends to invest in the Australian space ecosystem through not only industry presence but education opportunities for emerging talent. Our Foundation considers itself very lucky to be involved in Australian space Education and to offer our 2022 Fund programs, looking for innovative ideas from researchers, whilst exploring new leaders in the field of optical and in-situ measurement systems for space applications.'

Marco Esposito, managing director of cosine Remote Sensing, further shared his hopes and thoughts for the impactful outcomes of this project stating, “We are glad to have Kathivaran onboard supporting the development of such high impact solution to mitigate the wildfire issue that increasingly threatens the world due to the expansion of global drylands under a warming climate. The solution will exploit different HyperScout capabilities and will be of great use also over Australia within the Kanyini mission.”

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ABOUT THE ANDY THOMAS SPACE FOUNDATION

The Foundation was incorporated in July 2020 as a not-for-profit organisation with DGR Status.

The aims of the Andy Thomas Foundations’ Education Fund are:

- To support space education and outreach in Australia
- To inspire young people to pursue careers in space by building a culture of entrepreneurship and igniting a curiosity for space and related scientific activities
- To improve the knowledge and develop skills of potential founders of space-related enterprises.
- To improve the employability of young people in the space sector and to facilitate students and young graduates to find jobs related to their skills.

<https://andythomas.foundation/>

ABOUT COSINE

cosine combines physics and technology to bring innovative measurement solutions to our customers. cosine develops and builds optical and in-situ measurement systems for space, air and ground use. These are used in scientific, industrial, medical, environmental, energy, agri/food, security, semiconductor and space applications, with customers ranging from small high-tech companies to the European Space Agency and NASA. The cosine team consists of 50+ highly educated people who develop transparently in close collaboration with our customers. With our broad experience in different technological areas, we provide out-of-the-box measurement solutions. Technologies span the field of applied physics, with extensive experience in spectroscopy, laser systems and radiation imaging systems. We use our knowledge in physics, electronics and software to solve problems in an innovative way. We offer products in Hyperspectral imaging,

polarimetry, spectroscopy, infrared and lidars, all of which can be equipped with Artificial Intelligence. Our instruments can be used for a wide range of applications and can be tailored to the needs of our customers. Earth observation data can be used for early warning, with information processed in flight, for applications including algae detection, change detection, crop water requirement, flood delineation, forest fires, vegetation health.

<https://www.cosine.nl/>