

CONFERENCE PROGRAM

CONFERENCE DAY ONE

INTERCONTINENTAL ADELAIDE
NORTH TERRACE, ADELAIDE

8.00am - 8.30am

CONFERENCE REGISTRATION OPENS

8.30am - 8.45am

Conference Day One Welcome

Opening Address: Professor Andy Koronios, Chief Executive Officer, SmartSat CRC

8.45am - 9.40am

Conference Day One Keynote

Keynote Address: Dr Christyl Johnson, Deputy Center Director for Technology & Research Investments, NASA Goddard Space Flight Center

9.40am - 10.00am

Plenary Session

Speaker: Dr Matthew Angling, Head of Research & Innovation, BAE Systems In-Space

Dr Matt Angling discusses the BAE In-Space Azalea mission, the role of technology development, and potential plans like Scarlet- α in Australia.

10.00am - 10.40am

SESSION 1: Bringing Value through Collaboration

Speaker: Dr Carl Seubert, Chief Research Officer, SmartSat CRC

This session looks at how SmartSat acts as a conduit between industry, academia & government, resulting in the development of innovative technologies.

Projects featured:

- **P2.52 SCARLET- α : SpaceCraft Autonomy & Onboard AI for Next Generation Space Systems**
Professor Ryszard Kowalczyk, Professorial Chair of AI, SmartSat CRC / University of South Australia
- **Collaborative Spacecraft Autonomy with Defence Science & Technology Group and SmartSat**
Dr David Lingard, Group Leader Space Autonomy, Mission Autonomy & Platforms, Defence Science & Technology Group

10.40am - 11.10am

MORNING TEA

11.10am - 12.10pm

SESSION 2: Supporting Flight Heritage

Speaker: Dr Sarah Cannard, Industry Director, SmartSat CRC

This session features an overview of the SA Space Services Mission and Kanyini – including mission timeline, outcomes and related high-level research activities – followed by a panel session with the people behind the project.

Panel speakers:

- **Nick Manser**, Satellite Systems Engineer, SmartSat CRC
- **Dr Matthew Tetlow**, Founder & Chief Executive Officer, Inovor Technologies
- **Dr Adrian Shuard**, Principal Satellite Engineer, Myriota
- **Dr Catherine Grace**, Director, South Australian Space Industry Centre
- **Dr Davina White**, GIS Lead, Department of Primary Industries & Regions (PIRSA)

12.10pm - 12.40pm

PhD Presentations

Session Chair: Dr Sarah Cannard, Industry Director, SmartSat CRC

Speakers:

- **P2.51s Close Proximity Space Domain Awareness On-Board Satellite Systems**
Ethan Elms, SmartSat PhD Student, University of Adelaide
- **P2.44s Deep Learning Intrusion Detection System for Smart Satellite Networks Based on Software Defined Networking**
Uakomba Uhongora, SmartSat PhD Student, University of South Australia
- **P2.57s Advanced Synthetic Aperture Radar-based Surface & Underwater Object Detection & Classification**
Elliot Hansen, SmartSat PhD Student, Defence Science & Technology Group / University of Adelaide

12.40pm - 1.40pm

LUNCH

1.40pm - 2.00pm

Spotlight Session: SmartSat Earth Observation - Innovative research for Australia's pressing challenges.

Speaker: Fabrice Marre, Senior Earth Observation Specialist, SmartSat CRC

This session looks at innovative research and initiatives leveraging Earth Observation to tackle Australia's most pressing environmental and societal challenges.

SMARTSAT CRC CONFERENCE 2024

CONFERENCE DAY ONE

INTERCONTINENTAL ADELAIDE
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2.00pm - 2.50pm

SESSION 3: Addressing the needs of Stakeholders (Part 1)

Speaker: Fabrice Marre, Senior Earth Observation Specialist, SmartSat CRC

This session looks at how SmartSat is funding projects that are solving real world problems for stakeholders across private industry to government agencies.

Projects featured:

- **P3.46 SAecoMap: Vegetation Mapping with Hyperspectral Imagery**
Dr Davina White, GIS Lead, Department of Primary Industries & Regions (PIRSA)
- **P3.47 HeatWaves: Sensing South Australian Urban Heat Islands from Space**
Sarah White, Regional Data Officer, Green Adelaide
- **P6.05 Developing Capability to Assess Live Coral Cover & Seagrass Species using Satellite Based Hyperspectral Imagery**
Dr Dylan Cowley, Postdoctoral Research Fellow, School of the Environment, University of Queensland

2.50pm - 3.20pm

PhD Presentations

Session Chair: Fabrice Marre, Senior Earth Observation Specialist, SmartSat CRC

Speakers:

- **P3.41s Quantifying Dieback of Eucalypt Forests using Remote Sensing**
Donna Fitzgerald, SmartSat PhD Student, University of South Australia
- **P3.04 Real-time Fire Analytics**
Simon Ramsey, SmartSat PhD Student, RMIT University
- **P3.31s Natural hazard prediction & damage assessment using multimodal satellite & geospatial data in self-supervised XAI model**
Hira Saleem, SmartSat PhD Student, University of New South Wales

3.20pm - 3.50pm

AFTERNOON TEA

3.50pm - 5.00pm

SESSION 4: Creating a legacy of sovereign onboard technologies

Speaker: Dr Andrew Barton, Research Program Manager, SmartSat CRC

This session looks at the sovereign technologies and capabilities in onboard and artificial intelligence being developed through SmartSat.

Projects featured:

- **P2.61 EM Verification of Onboard Smoke Detection Model & Algorithms**
Dr Sha Lu, Research Associate, University of South Australia
- **P2.58 Robust Predictive AI & P2.34 Onboard Hyperspectral AI**
Dr Darshana Madduma Kankanamalage Don, Research Fellow, Queensland University of Technology
- **P2.58 Robust Predictive AI & P2.34 Onboard Hyperspectral AI**
Professor Tat-Jun Chin, Professorial Chair of Sentient Satellites, SmartSat CRC / University of Adelaide

5.00pm - 5.05pm

Closing Session

Speaker: Professor Andy Koronios, Chief Executive Officer, SmartSat CRC

CONFERENCE DINNER

ADELAIDE TOWN HALL
128 KING WILLIAM STREET, ADELAIDE

6.30pm - 7.00pm

NETWORKING DRINKS

Conference Dinner

Opening Address: Professor Andy Koronios, Chief Executive Officer, SmartSat CRC

Welcome Address: Dr Jane Lomax-Smith AM, Lord Mayor, Adelaide City Council

Keynote Address: Mikaela Jade, Director, SmartSat CRC Advisory Board

Join SmartSat CRC Conference 2024 delegates and special guests at the historic Adelaide Town Hall for our annual Conference Dinner, with keynote address by SmartSat Director and Founder & CEO of Indigenous-led, social impact and community engagement company, Indigital.

10.00pm

DINNER CLOSE

CONFERENCE PROGRAM

CONFERENCE DAY TWO

INTERCONTINENTAL ADELAIDE
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8.00am - 8.30am

CONFERENCE REGISTRATION OPENS

8.30am - 8.40am

Conference Day Two Welcome

Opening Address: Professor Andy Koronios, Chief Executive Officer, SmartSat CRC

8.40am - 9.30am

Keynote: Joint Defence Capabilities & Space Operations

Speakers: Colonel Clifford White, Director Space Services, Space Capability Branch

9.30am - 9.40am

Plenary Session

Speaker: Lieutenant General Larry James USAF (Ret'd), Strategic Advisor, SmartSat CRC

Lt Gen Larry James discusses the pathways for SmartSat to develop new technologies through international and defence-focused partnerships.

9.40am - 10.40am

SESSION 5: Creating a legacy of sovereign technologies

Speaker: Peter Kerr, Defence & National Security Coordinator, SmartSat CRC

This session looks at the role of SmartSat in the Australian space industry, showcasing projects delivering value across the sector.

Projects featured:

- **P1.28 Inter-Satellite Links using Millimetre Waves**
Dr Jeewani Kodithuwakkuge, Communications Specialist Protected Satellite Communications, Defence Science & Technology Group
- **P1.27 Cognitive Satellite Radios**
Professor Kandeepan Sithamparanathan, Associate Dean Electronic & Telecommunications Engineering, RMIT University
- **P2.59 Technology Development for In-orbit Servicing, Assembly & Manufacturing (ISAM)**
Dr Xiaofeng Wu, Senior Lecturer in Space Engineering School of Aerospace, Mechanical & Mechatronic Engineering, University of Sydney

10.40am - 11.10am

MORNING TEA

11.10pm - 12.20pm

SESSION 6: Addressing the needs of the Stakeholders (Part 2)

Speaker: Gavin Kennedy, Queensland Earth Observation Hub Coordinator, SmartSat CRC

This session provides an introduction to SmartSat's Queensland Earth Observation Hub and its leadership in driving EO R&D for the agricultural sector, developing decision making solutions and supporting industry growth.

Projects featured:

- **P3.45 Enhancing Classification of Farm-Scale Natural Capital Assets Using Remote Sensing**
Dr Jim Radford, Principal Research Fellow, La Trobe Research Centre for Future Landscapes
- **P3.37 Accurate Carbon & Water Accounting for Agriculture: Fusing Mobile Eddy Covariance Tower Measurements with Earth Observation Satellite Data**
Professor Mark Adams, Professor Bioscience & Innovation, Swinburne University of Technology
- **P6.11 Smartcoast: Coastal Management Digital Twin Pilot in Torres Strait, Queensland Based on Lidar & Satellite EO Data Fusion, with a Focus on Mangroves**
Paul Seaton, Climate & Nature Director, Fugro (Asia Pacific)
- **P6.12 Calibration & Validation of SAR & Stereo/Tri-Stereo Satellite Data for Assessing Vegetation Condition**
Jean-Marc Hero, Adjunct Professor, School of Science Technology & Engineering, University of the Sunshine Coast

12.20pm - 12.40pm

PhD Presentations

Session Chair: Peter Kerr, Defence & National Security Coordinator, SmartSat CRC

Speakers:

- **P1.25s Fabrication of 3-D, Wavelength-Tuneable Photonic Crystals for Space-Based Mm-Wave, Terahertz, & Infrared Communications**
Vibhor Thapliyal, SmartSat PhD Student, La Trobe University
- **P1.32s Emergency Buddy System**
Francis Kagai, SmartSat PhD Student, Swinburne University of Technology

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1.40pm - 2.00pm

2.00pm - 3.00pm

3.00pm - 3.30pm

3.30pm

3.30pm - 5.00pm

LUNCH

Spotlight Session: Interning at European Space Agency's Φ -Lab – Students in Conversation

Session Chair: Dr Carl Seubert, Chief Research Officer, SmartSat CRC

In conversation with Dr Carl Seubert, SmartSat PhD students discuss their time interning at the European Space Agency's Φ -Lab on groundbreaking EO satellite technologies.

Panel speakers:

- **P2.41s Interference modelling, detection, and mitigation for improving spaceborne SAR performance**
Nermine Hendy, SmartSat PhD Student, RMIT University
- **P2.18s Using Satellite Data to Locate and Phenotype Plants from Space**
Brandon Victor, SmartSat PhD Student, La Trobe University

PANEL SESSION: Building an enduring space ecosystem

Session Chair: Professor Andy Koronios, Chief Executive Officer, SmartSat CRC

This panel session explores the vision and aspirations for an enduring space ecosystem.

Panel speakers:

- **Dr Christyl Johnson**, Deputy Center Director for Technology & Research Investments, NASA Goddard Space Flight Center
- **Air Vice-Marshal Cath Roberts (Ret'd) AO CSC**, Former Commander, Defence Space Command
- **Enrico Palermo**, Head, Australian Space Agency
- **Matt Opie**, Chief Executive, Defence SA/South Australian Space Industry Centre
- **Peter Nikoloff**, Chair, SmartSat CRC Industry Advisory Board

Conference Closing Session

Speaker: Professor Andy Koronios, Chief Executive Officer, SmartSat CRC

CONFERENCE CLOSE

NETWORKING DRINKS



SMARTSAT CRC
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SCAN FOR CONFERENCE WEBPAGE