AUSTRALIAN CANCER RESEARCH FOUNDATION

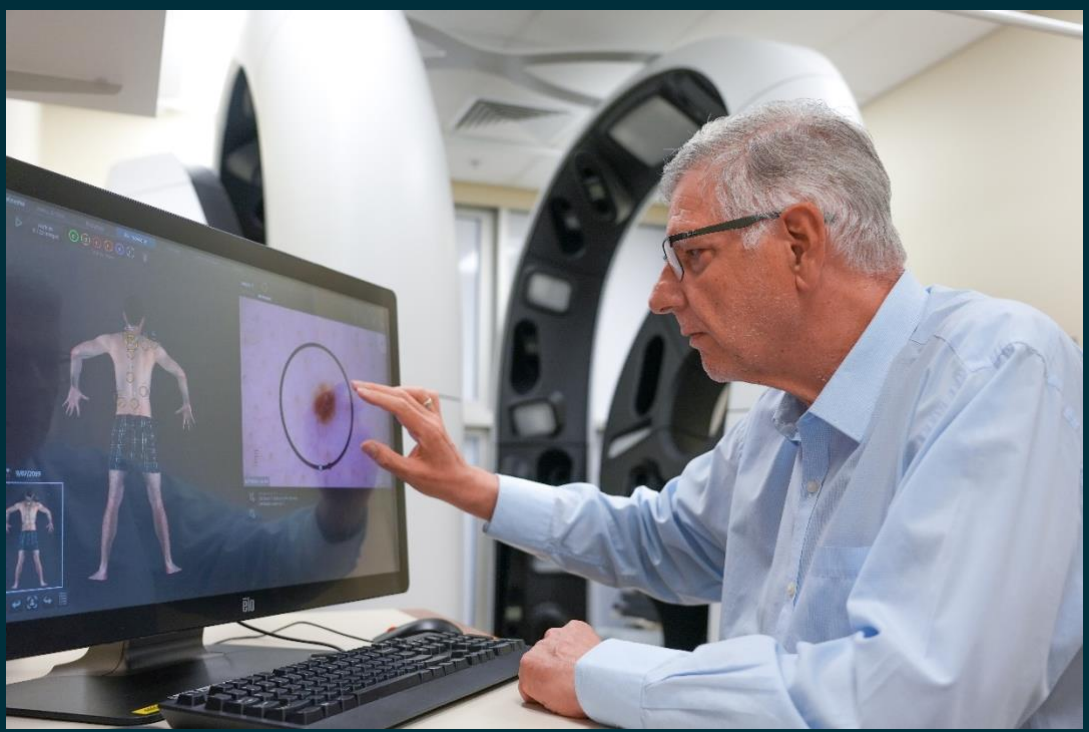
ACEMID
AUSTRALIAN CENTRE OF EXCELLENCE IN
Melanoma Imaging & Diagnosis

ACRF AUSTRALIAN CENTRE OF EXCELLENCE IN

Melanoma Imaging and Diagnosis

HIGHLIGHTS OF THE 2025 ANNUAL REPORT

Finalised on 25th February 2025



THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

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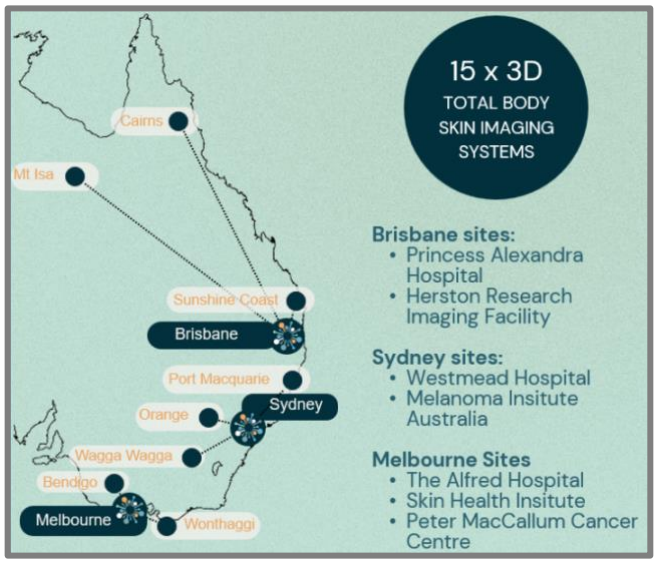
MONASH University

THE ACRF ACEMID PROJECT

The vision of the ACRF Australian Centre of Excellence in Melanoma Imaging and Diagnosis (ACRF ACEMID) is a "World Without Melanoma". To achieve this vision, ACRF ACEMID is delivering skin imaging technology integrated within a telemedicine research network spanning 15 dermatology research sites across Queensland (QLD), New South Wales (NSW), and Victoria (VIC) to reconceive how melanoma is screened for and detected.

The ACRF ACEMID lead researchers are Prof H. Peter Soyer (The University of Queensland (UQ), QLD), Prof Pablo Fernandez-Peñas (The University of Sydney (USyd), NSW) and A/Prof Victoria Mar (Monash University, VIC), with Prof Monika Janda (UQ) chairing the ACRF ACEMID Research Program Committee. The core research team, in combination with an exceptionally strong, multidisciplinary team of additional researchers, and alongside senior health, informatics, and hospital staff, enable the successful implementation of ACRF ACEMID.



ACEMID SITES

All 15 ACRF ACEMID sites are now established – two sites in early 2024, three sites during 2023, and five sites in both 2022 and 2021.

2024

- March 2024 – NSW 5 – Wagga Wagga
- January 2024 - NSW 4 – Pinnacle Dermatology, Orange

2023

- August 2023 - NSW 3 – Port Macquarie Community Health Centre
- July 2023 - QLD 5 – Mt Isa Hospital
- March 2023 - QLD 1 – Princess Alexandra Hospital, Brisbane – new 3D total body imaging system installed to replace the old imaging system from 2017 with the latest, updated technology.
- February 2023 - QLD 4 – Sunshine Coast University Hospital (SCUH)

2022

- October 2022 - VIC 5 – Peter MacCallum Cancer Centre, Melbourne
- September 2022 - VIC 4 – Wonthaggi Hospital, Bass Coast Health
- July 2022 - VIC 3 – Bendigo Hospital
- February 2022 - QLD 3 – Herston Imaging Research Facility, Brisbane
- January 2022 - QLD 2 – Cairns Hospital

2021

- August 2021 - VIC 2 - Skin Health Institute, Melbourne
- June 2021 - NSW 2 - Westmead Hospital, Sydney; relocated July 2022
- May 2021 - NSW 1 - Melanoma Institute Australia, Sydney
- May 2021 - VIC 1 - The Alfred Hospital, Melbourne
- February 2021 - QLD 1 – Princess Alexandra Hospital, Brisbane – previously established.

Attendees at the October 2024 ACEMID Researcher Workshop

THE ACRF ACEMID COHORT STUDY

The ACRF ACEMID Cohort Study is the core study utilising the ACRF funded 3D total body imaging systems for the early detection of melanoma and other skin cancers.

The Cohort Study has enrolled over 7,365 participants as of February 2025 at the 15 active ACRF ACEMID sites and aims to enrol up to 15,000 adult participants by the end of the study.

Study participants are placed into 3 groups based on their calculated risk of melanoma with study visits occurring 6 monthly for the very high-risk group, 12 monthly for the high-risk group, and 24 monthly for the low/average risk group.

The Cohort Study collects a range of data including total body and linked dermoscopy images, questionnaire data (including demographics, behavioural, quality of life, personal and family history), and clinical data. As of February 2025, the study has collected 16,550 3D total body images, over 331,000 dermoscopy images (average of 20 per 3D imaging encounter), 2,718 pathology report diagnoses consisting of 448 melanomas, over 900 keratinocyte cancers, and over 1,300 benign lesions.

Approval has also been obtained to access Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Schedule (PBS) data.

Processes to retrieve, scan and review the histopathology slides of participants biopsied lesions have been established. All melanoma or borderline lesions, and an equal number of benign lesions will be analysed.

Saliva sample collection, for future genetic analyses, has also commenced at the central metropolitan sites in each state, with 1,292 samples collected to date.

The Cohort study, led by A/Prof Victoria Mar (Monash Uni), is funded by a NHMRC Clinical Trials and Cohort Studies Grant (APP2001517).

Ethics approval and clinical trial registry details: Metro South Human Research Ethics Approval number HREC/2019/QMS/57206, UQ Ethics Approval number 2019003077, ANZCTR12619001706167.

ENROLMENT (AS OF JANUARY 2025)

ACRF ACEMID Site	Start Date	Participants
PAH, QLD	Feb 2021	1030
MIA, NSW	Aug 2021	999
SHI, VIC	April 2022	450
Westmead Hospital, NSW	July 2022	548
HIRF, QLD	Aug 2022	1138
The Alfred Hospital, VIC	Sept 2022	779
Peter MacCallum Cancer Centre, VIC	Oct 2022	185
Bendigo Hospital, VIC	Nov 2022	594
SCUH, QLD	April 2023	377
Cairns Hospital, QLD	June 2023	134
Wonthaggi Hospital, VIC	Aug 2023	318
Port Macquarie Community Health Centre, NSW	Aug 2023	132
Mt Isa Hospital, QLD	Jan 2024	172
Pinnacle Dermatology, Orange, NSW	Jan 2024	167
Wagga Wagga, NSW	Mar 2024	342

Attendees pictured below at the 2025 ACEMID Researcher Workshop, Thursday 20th February 2025

IMAGE TRIAL (2021-2025)

The IMAGE Trial officially launched in February 2021, with 10 sites across metro and regional QLD, VIC, and NSW, utilising the ACRF ACEMID 3D total body imaging systems where available and 2D total body photography otherwise. Of these 10 sites, five are ACRF ACEMID sites (Alfred Hospital, Princess Alexandra Hospital, Skin Health Institute, Westmead Hospital, Wonthaggi Hospital).

The recruitment target of 670 participants was achieved in April 2023, with 129 undergoing 3D total body imaging at the five ACRF ACEMID sites. The study is due to complete the 24-month follow-up period in late April 2025.

Whilst Melanoma Surveillance Photography (MSP) is recommended in the Australian melanoma clinical practice guidelines for surveillance of high-risk individuals, the Medical Services Advisory Committee (MSAC) identified several gaps in the evidence which require addressing before an informed recommendation about Medicare Benefits Schedule listing of MSP can be made.

The IMAGE Trial will address these evidence gaps and determine the extent to which MSP, comprised of 2D and 3D total body photography plus digital dermoscopy, improves diagnostic performance for melanoma and reduces the number of biopsies during the surveillance of high- and very high-risk individuals.

The IMAGE Trial, led by A/Prof Victoria Mar (Monash University), is funded by an MRFF Targeted Health System and Community Organisation Research Grant – Melanoma Surveillance Photography to improve early detection of melanoma in very high risk (or high risk) patients (APP1175082). NCT04385732

CRE IN SKIN IMAGING AND PRECISION DIAGNOSIS (2021-2026)

This Centre of Research Excellence (CRE) is focused on enhancing melanoma early detection and diagnosis through improved diagnostic processes and procedures and will use data generated by the ACEMID Cohort Study. This grant focuses on some of the following areas:

Artificial intelligence: This program of work is led by Prof Zongyuan Ge and Dr Zhen Yu (Monash University) to develop and improve artificial intelligence algorithms for flagging lesions of concern using 3D total body photography.

Scarless biopsy: This program of work is led by Professor Pablo Fernandez-Penas, Dr Ali Azimi and Dr Rachel Teh (University of Sydney). The scarless biopsy method (also called tape stripping) collects the top layers of the skin for biomarker analysis to look for protein signatures indicative of melanoma and skin cancers. Westmead Hospital, The Princess Alexandra Hospital and the Alfred Hospital are participating in this ACEMID sub-study, collecting scarless biopsy samples in ACEMID Cohort Study participants. As of February 2025, the Princess Alexandra Hospital has enrolled 110 participants (since 23/08/2023), Westmead Hospital has enrolled 110 participants (since 16/03/2023), and Alfred Hospital has enrolled 18 participants (since 20/06/2024).

Health economics: Led by Professor Rachael Morton, Dr Rashidul Mahumud and Dr Tess Cooper (University of Sydney) this program aims to assess what study designs and validation methods are needed for the health technology assessment of artificial intelligence and omics driven diagnostics. The team are conducting a scoping review and conducting qualitative interviews with health technology assessors.

The CRE project, led by Prof Monika Janda (University of Queensland), is funded by a NHMRC Centre of Research Excellence Grant (APP2006551).

ROADMAP OPTIONS FOR MELANOMA SCREENING IN AUSTRALIA (2022-2026)

The aim of this grant is to co-design with consumers and healthcare stakeholders, a precision targeted melanoma screening approach to inform clinical and policy recommendations for an effective national risk-stratified melanoma screening program. This grant provides funding for each CI to employ a post doctorate researcher to support their program of work. This grant focuses on some of the following areas:

Trust in new health care technology: This program of work is led by Prof Nicole Gillespie (Melbourne University) and Dr Brad Partridge (University of Queensland). Stakeholder trust is crucial for the uptake of technology-mediated health services, both by consumers and clinicians. They are engaging with clinicians and patients through surveys and interviews to determine their thoughts on the potential of new technologies and artificial intelligence in the melanoma and skin cancer space.

Risk assessments: This program of work is led by Prof Anne Cust, Dr Amelia Smit and PhD student Gillian Reyes-Marcelino (University of Sydney). Risk assessment tools for melanoma help estimate an individual's likelihood of developing melanoma based on various risk factors. These tools consider factors such as age, family history, skin type, sun exposure, and previous skin conditions. The team are also incorporating the value of adding imaging data output from 3D total body imaging (such as mole counts).

This project, led by Prof Monika Janda (UQ), is funded by a NHMRC Synergy Grant (APP2009923).

ACEMID-ASSESS Project (2023-2026)

This project will explore the dynamic between digital health technologies such as 3D total body imaging, digital dermoscopy and AI driven lesion diagnosis, versus traditional face-to-face services for skin cancer diagnosis. The costs, benefits and preferences of patients, clinicians and the wider community will be identified, enabling assessment of the impact of augmenting face-to-face care with data from these digital health technologies.

The project will develop economic methods to evaluate digital health and precision medicine skin cancer diagnostics, which include a discrete choice experiment; a cost-effectiveness analysis; and a multi-criteria decision analysis. The team are currently working on ethics approval, discrete choice experiment design and preparing the pilot surveys.

This project, led by Prof Rachael Morton (University of Sydney) is funded by a MRFF 2022 High-Cost Gene Treatments and Digital Health Interventions Grant Stream 3.

AWARDS

ACRF ACEMID were selected as one of three finalists for this **Australian Museum Eureka Prize for Excellence in Interdisciplinary Scientific Research** in August 2024, and announced as winners on 4th September 2024. This prestigious award recognises excellence in collaborative research involving two or more scientific disciplines. The award ceremony in Sydney was attended by members of the research team pictured below (Left to Right): Mr Craig Lawn (melanoma consumer advocate), Prof Pablo Fernandez-Penas, Prof Rachael Morton, Prof Monika Janda, Prof Anne Cust, and Prof H. Peter Soyer.

Prof H. Peter Soyer was awarded the **Melanoma and Skin Cancer Advocacy Network (MSCAN) Spot on Award for Dedication to Changing Australia's Skin Cancer Landscape**. Prof Soyer was presented with his award by MSCAN Founder and Director Ms Tamara Dawson at the Parliamentary Friends of Melanoma and Skin Cancer Awareness event held at Parliament House on 21st November 2024.

Prof Rachael Morton and Prof Anne Cust were awarded the **ACTA HEAT (Health Economics Alongside Trials) Excellence in Trial-Based Health Economics Award.** This occurred as part of the Australian Clinical Trials Alliance Trial of the Year Awards. This award was for the cost-effectiveness analysis conducted alongside the Managing Your Risk trial, which found that a program providing individuals with a report on their genetic risk of melanoma was a cost-effective method to improve sun protection behaviours.

Prof H. Peter Soyer and Prof Liam Caffery were awarded **Honorary Membership of the International Dermoscopy Society (IDS) Executive** at the 2024 World Congress of Dermoscopy held in Argentina on 16th - 19th October 2024. This was in recognition of their efforts to advance imaging in dermatology.

Prof H. Peter Soyer was awarded the **Professor Alex Stratigos European Academy of Dermatology and Venereology (EADV) 2024 International Award** at the EADV Congress held in Amsterdam on 25th – 28th September 2024.

CONSUMER ENGAGEMENT

The project team established a Consumer & Community Engagement Working Group in 2021, chaired by melanoma advocate Mr Craig Lawn, and continue to prioritise their close engagement and interaction with consumers. Since the commencement of ACEMID, consumers have been involved as Chief and/or Associate Investigators on 13 grant submissions, of which five have been successful (>$14M funding) and three are pending.

The fourth ACRF ACEMID Consumer Forum addressed the topic of 'ACEMID study update: Progress to date and exciting future directions.' It was held as part of the ACRF ACEMID Annual Research Workshop in Brisbane in February 2025.

Over 100 consumers and researchers joined the consumer forum, facilitated by melanoma advocate Ms Alison Button-Sloan. Attendees were provided with an update on the ACEMID Cohort Study by Dr Uyen Koh, with details on study progress on the ACEMID website. Prof Victoria Mar then delivered an insightful presentation on artificial intelligence and skin cancer, offering an overview of upcoming projects in the field. While the current ACEMID cohort study does not include AI as a component, future research will focus on possible ways to incorporate AI to identify high-risk populations for screening, develop a reliable (and potentially automated) screening test, select appropriate lesions for imaging, and to flag lesions of concern.

STAKEHOLDER ENGAGEMENT

Australian Melanoma an Skin Cancer Alliance: ACRF ACEMID are members of the Australian Melanoma and Skin Cancer Alliance (AMSCA). During 2024 AMSCA developed and released a consensus statement advocating for a national targeted melanoma screening program. This statement was presented at the Health Minister's Round Table on Melanoma and Skin Cancer Screening, organised by the Department of Health and Cancer Australia in May 2024.

Parliamentary Friends of Melanoma and Skin Cancer Awareness: The ACRF ACEMID project team have continued Government engagement activities to keep parliamentary representatives informed about the project, its objectives, and benefits to the Australian public. During 2024, ACEMID participated in two Parliamentary Friends of Melanoma and Skin Cancer Awareness events held at Parliament House, Canberra on the 29th February and 21st November 2024. These events were proudly hosted by the Melanoma and Skin Cancer Advocacy Network (MSCAN), with ACEMID contributing to development of content for the day, and included a range of stakeholders including consumer representatives.

Data Workshop: The ACRF ACEMID team and Melanoma Institute Australia (MIA) hosted a Data Workshop, held in Sydney on 3rd September 2024. This workshop was planned in close consultation with the National Collaborative Research Infrastructure Strategy (NCRIS) Health Group capabilities and brought together a wide range of stakeholders to develop a collaborative approach for advancing innovative data solutions in melanoma prevention and detection. Information was shared about the ACEMID project and its dataset, along with details of current capabilities and plans of NCRIS. A range of ACEMID data challenges were highlighted, and many of these were identified as relevant to other health related programs (e.g. lung cancer screening) as well as more broadly across the imaging research sector.

Attendees pictured at the data workshop, September 2024

ADDITIONAL ACHIEVEMENTS

The project team are actively contributing to the development of the next generation of melanoma and skin cancer researchers, mentoring 21 post-doctoral researchers/clinical fellows and 12 PhD/MPhil student during 2024-2025.

There have been 26 peer reviewed articles published since 2022 with more publications anticipated once the full research dataset is collected.

ACRF ACEMID was proud to be involved in the Conquering Skin Cancer Film, released in late November 2024, that aims to inspire audiences to learn how to be part of the solution to end skin cancers.

The ACRF ACEMID research team are constantly endeavouring to obtain additional funding to support the project's research activities. In the last 12 months we have been awarded over $10M in competitive research funding that included:

- MRFF 2023 National Critical Research Infrastructure Grant Stream 1, led by Prof Monika Janda, UQ. This project provides funding for the regional and rural ACEMID sites.
- NHMRC 2023 Partnership Project PRC1, led by A/Prof Aideen McInerney-Leo (UQ) – This project aims to create personalised melanoma risk scores based on genetic and skin damage data.
- NHMRC Investigator Grant, awarded to Professor Monika Janda (UQ) – Evidence generation for a national melanoma prevention and early detection strategy. This program of research will provide the evidence for how Australia can move toward a targeted melanoma screening program for those at highest risk, and improve the reach and relevance of personalised skin cancer prevention.
- NHMRC Investigator Grant awarded to Professor Victoria Mar (Monash University). This research will enable development and validation of cutting-edge technologies to standardise diagnosis and optimise care. Emerging technologies will be used to identify significant variations in care.