MELANOMA NEWSLETTER

IMPACT REPORT 2020-21

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AUSTRALIA ECU EDITH COWAN UNIVERSITY

Whilst the world continues to adapt to a new normal, please know that our absolute commitment to improving the lives of those affected by melanoma and other cancers has not changed.

Thank you to you, our donors, for your generous support. Through your donations, our team has grown, and our research has expanded, driving changes in the management of patients with melanoma.

We extend our thanks to all study participants and healthy donors for their contribution to this vital research. Our research is also supported by a broad team of clinicians, consumer representatives, and scientists from many institutions - we sincerely thank all our research partners for their incredible support.

In 2021, the Melanoma Research Group became part of the Edith Cowan University Strategic Research *Centre for Precision Health* and a key component of the Cancer Research Stream.

As part of this new Centre, our team will have enhanced support and the opportunity for collaboration with other medical research experts, bringing their expertise to our fight against to melanoma.

In order to continue the incredible work here at ECU our priority in 2021 is to raise funds to support a research scientist with specialisation in bioinformatics to enhance our world-leading expertise in Cancer Research. The position will support cutting-edge complex analyses to decipher the genetics of melanoma and other cancers.

Your generosity in the past has enabled us to make great progress in research. Please stand with us again and consider donating to take us another step closer to finding a cure.

Any gift helps us in the fight against Melanoma. To make your tax-deductible donation, please visit www.ecu.au/giving-to-ecu/ or call a member of the Development team on +61 8 6304 2761.

Associate Professor Elin Gray

AWARDS

Associate Professor Elin Gray was honoured with a prestigious biomedical science award for her world-leading melanoma research. Elin received a 2020 Georgina Sweet Award for Women in Quantitative Biomedical Science for her research vision and mentorship of the next generation of scientists. The Georgina Sweet Awards promote and support female scientists who demonstrate excellence in Quantitative Biomedical Science, with recipients receiving $25,000. She plans to put the award money towards bioinformatics training and support for early career researchers in biomedical sciences.

Georgina Sweet Award for Women in Quantitative Biomedical Science

A/Prof Elin Gray delivering her Georgina Sweet Award lecture

Anna Reid was awarded was a Professional Development Award from the Edith Cowan Athena Swan Advancement Scheme in recognition of her outstanding work for more than 10 years with the Melanoma Research Group, excellence in research management, ethics, and integrity. Anna is the longest serving member of the team and the most generous and helpful research assistant that a team could have. Anna is now serving as clinical study coordinator and works at the clinical sides Tuesdays and Wednesdays, becoming a familiar face to many study participants.

Ms Anna Reid with ECU vice-chancellor Prof Steve Chapman, receiving her Edith Cowan Athena Swan Advancement Scheme Award

EBBS AND FLOWS

We are proud of our PhD students Lokeswari Prathyusha Tangella, Gabriela Marsavela and Aaron Beasley who completed their degree during the period. They have significantly contributed to our research program and the establishment of new methodologies in the laboratory.

In her PhD, Prathyusha constructed computational models of a protein that extrudes drugs out of the tumour cells, causing treatment failure. Her studies were carried out in collaboration with co-supervisor Prof Ricardo Mancera from Curtin University.

Gabriela's PhD made an incredible contribution to our understanding of a particular modality of liquid biopsy (circulating tumour DNA – ctDNA). She showed in which clinical settings ctDNA analysis performs the best as well as highlighting its shortcomings. Her article in Clinical Cancer Research published in November 2020 received great attention from the cancer research community.

Aaron's PhD focused on ocular melanoma, a subtype of melanoma that remains a clinical challenge as there are no effective treatments. He developed and tested two different liquid biopsy modalities that can aid the management of these patients, providing early prognostication and detection of metastases. His studies were done in collaboration with Dr Tim Isaacs from Perth Retina and Dr Fred Chen from the Lions Eye Institute.

We also said good-bye to post-doctoral scientist Leslie Calapre, our next generation sequencing expert who will be sorely missed. Leslie was with the group for almost a decade, starting as a postgraduate research student to becoming a postdoctoral researcher. Leslie is now working at Molecular Pathology at PathWest applying her expertise in tumour genetic analysis to help cancer patients. We wish Leslie all the best in this new adventure as she continues her important work at the front line of molecular diagnostics.

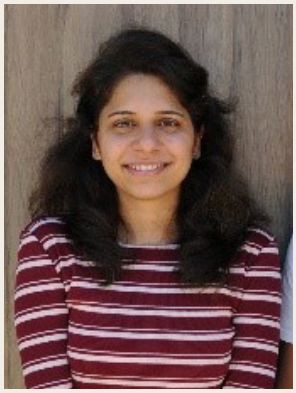
Dr Leslie Calapre

PhD graduates Dr Lokeswari Prathyusha Tangella, Dr Aaron Beasley and Dr Gabriela Marsavela

We welcome three new PhD students to the team, Sanjeev Adhikari, Neha Pulyani and John Taylor, as well as two babies to our group from postdoctoral fellow Dr Weitao Lin and from PhD student Afaf Abed.

SANJEEV KUMAR ADHIKARI

Sanjeev is from the Himalayan country of Nepal and graduated as a Master of Biotechnology and Bioinformatics from Deakin University in 2020. His PhD project will focus an "Investigation of the mechanisms of the release of circulating tumour DNA by melanoma cells", under the supervision of A/Prof Elin S Gray and Dr Aaron Beasley. Apart from academics, he is fond of travelling and exploring the diversity of nature.



NEHA PULYIANY

Neha Pulyiany is a cupcake loving girl from India. Neha did her Master's degree in Biotechnology and Bioinformatics in La Trobe University, Melbourne, were she gained hands-on experience with various techniques in molecular biology and microbiology. Presently, she is a PhD student pursuing her research work "Exploring therapeutic targets for the treatment of metastatic Uveal Melanoma", under the supervision of Dr Weitao Lin, Dr Aaron Beasley, and A/Prof Elin S Gray.

JOHN TAYLOR

John has recently joined the team as a new PhD student. John is originally from Ghana and has been awarded the competitive Vice-Chancellor's Research Fellow PhD scholarship from Dr Pauline Zaenker who will serve as his principal supervisor alongside A./Prof Elin Gray and Dr Travis Cruickshank. John's research will tackle the topic of "Autoantibodies as predictors for immune-related adverse events in melanoma patients undergoing immunotherapy treatment". John will also investigate cognitive impairments that can occur during immunotherapy.

GRANTS

Dr Weitao Lin was awarded a Collaborative Cancer Grant from Cancer Council WA. Weitao will lead a multidisciplinary team, formed by clinicians, bioinformaticians and biologists, to study a rare type of cancer called uveal melanoma. He will be partnering with Dr Rodrigo Carlessi from Curtin University, Dr Nima Mesbah-Ardakani from PathWest and Dr Elena Denisenko from the Harry Perkins Institute. The team will utilise cutting-edge technologies to understand how tumour cells interact with liver cells to favour their growth. This study is expected to find new targets to treat metastatic uveal melanoma.

Dr Leslie Calapre received a Cancer Council WA Early Career Investigator Grant for the identification of a melanoma-specific signature that can predict response to immunotherapies. She aims to exploit features that distinguish tumours of patients that responded to treatment from those that did not respond, to develop a blood test that can predict which patients will benefit from this type of therapeutic intervention.

Dr Aesha Gandhi was awarded a WA Cancer and Palliative Care Network (WACPCN) fellowship to study 'Autoantibodies as Biomarkers of Onset of Immune-related Adverse Events in Cutaneous Melanoma Patients'. Aesha will be mentored by Dr Pauline Zaenker, Associate Professor Elin Gray and Professor Michael Millward.

Dr Pauline Zaenker was awarded the Early Career Researcher Project Grant from the Australian Melanoma Research Foundation in 2020. Dr Zaenker's grant will be used to investigate whether serum autoantibody levels at the time of diagnosis of the primary melanoma tumour can serve as a predictor of the risk of the primary melanoma spreading to other parts of the body.

Mr Aaron Beasley was awarded the Postgraduate Student Research Grant from the Australian Melanoma Research Foundation in 2020. Mr Beasley's grant will be used to measure the levels of circulating tumour DNA in the plasma of patients with uveal (eye) melanoma to detect the spread of disease earlier as a supplement the current standard of care.

Dr Afaf Abed received an International Lung Cancer Foundation's Fellowship Award to investigate genetic markers that affect response to immunotherapy in lung cancer patients. This award builds on Afaf's recent findings published in the Journal for Immunotherapy of Cancer in November last year.

Centre for Precision Health
STRATEGIC RESEARCH CENTRE

Four postgraduate students from our team, Dr Afaf Abed, Emmanuel Acheampong, Du-Bois Asante and Désirée Sexauer were awarded the inaugural Centre for Precision Health Higher Degree by Research Grant Award Scheme 2021. The award, worth $5,000 each, aims to foster their projects in consonance with the Centre's research motto of improving patients outcome through the ethical application of biological data to inform and enhance personalized healthcare. Below are the details of the grants awarded;

Dr Afaf Abed - Genomic HLA as biomarkers of response to pembrolizumab in combination with chemotherapy in non-small cell lung cancer (NSCLC) patients.

Emmanuel Acheampong - Powering single-cell genomic to uncover new subpopulations of circulating tumour cells in non-small cell lung cancer patients.

Désirée Sexauer - Autoantibodies: Key to detection of melanoma brain metastases and prediction of treatment response in melanoma patients.

Du-Bois Asante - Genetic analysis of heterogeneous subsets of circulating tumour cells from ovarian cancer patients.

Congratulations!

left to right: DuBois Asante, Desiree Sexsauer, and Emmanuel Acheampong with Centre Director, Professor Simon Laws

WORKING WITH OUR COMMUNITY

The Melanoma Institute Australia - MelanomaWA recently partnered with the Melanoma Research Group and attended the ECU Guild Fairs at Joondalup, Mt Lawley and Bunbury campuses to raise awareness about melanoma prevention and detection.

As part of the Guild Fairs event, team leader Associate Professor Elin Gray and team members Dr Pauline Zaenker and Master candidate Désirée Sexauer were involved in the planning as well as the volunteering on the day at both Joondalup and Mt Lawley campuses. The stall was very well received by ECU staff members and students. The highlight for everyone were the 'Sundicators' wrist bands, which change colour from white to purple as soon as the UV index is higher than 5, indicating the necessity of applying sunscreen according to the recommendation of the Australian Cancer Council. Many attendees expressed their gratitude for learning more about skin and sun awareness and were also thankful for the reminder about the importance of skin checks.

Catherine Brogan, Donna Matthews, and Master candidate Désirée Sexauer.

Associate Professor Elin Gray with former Director of Melanoma Institute Australia Prof John Thomson and current CEO Matthew Browne.

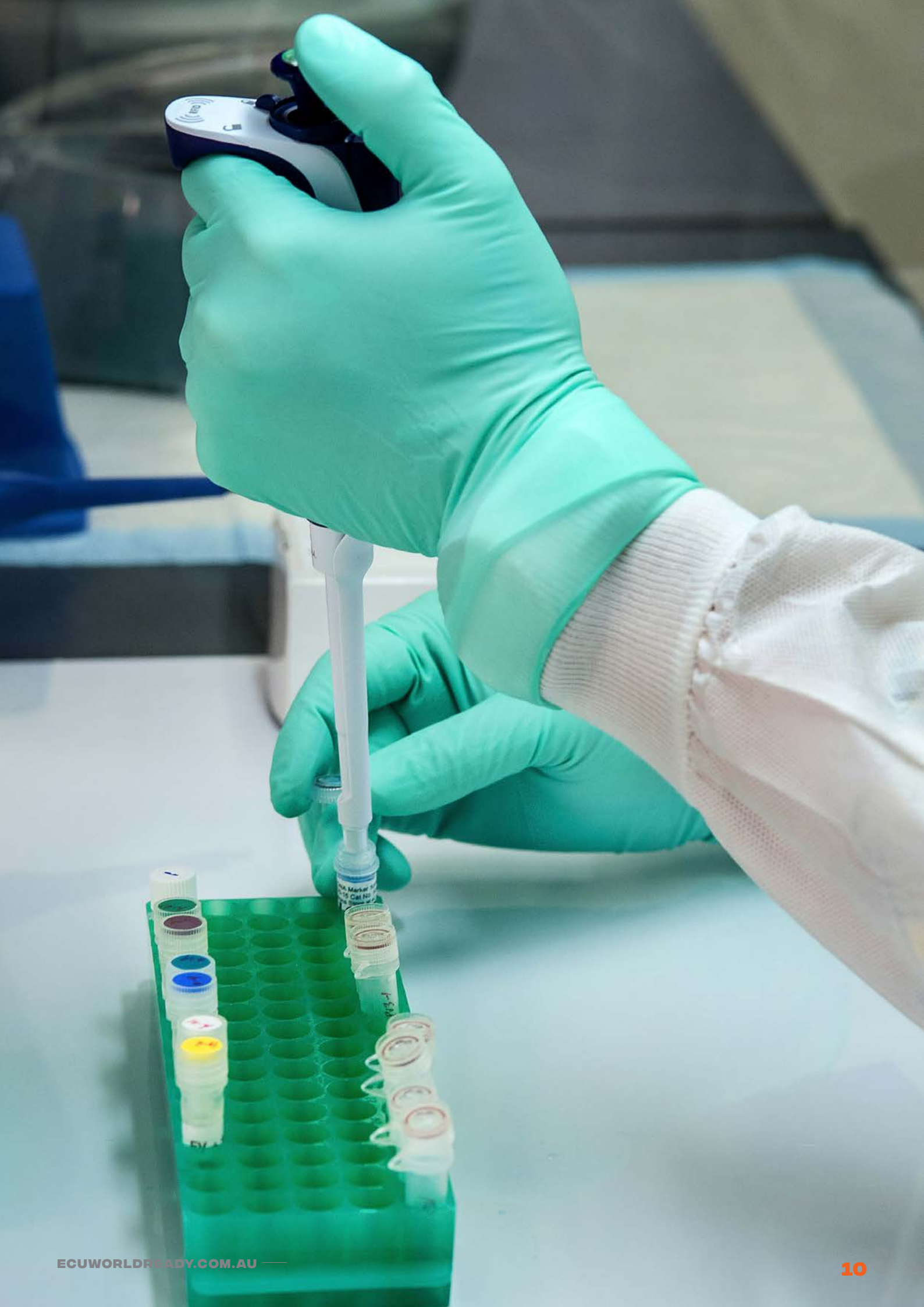
The WA Melanoma Community Forum, a community event for melanoma patients, families, friends, support teams and volunteers, was held in Cottesloe on the 25th of March 2021. Associate Professor Elin Gray was one of the invited key speakers for the event and presented about current research projects and findings from the Melanoma Research Group, highlighting the potential clinical utility of liquid biopsies.

At the end of the evening 35 people, including patients, supporters and volunteers, were awarded a 'Champion of melanomaWA 2021' medal. Associate Professor Elin Gray, Dr Zaenker and Master candidate Désirée Sexauer felt very honoured to receive such an award.

Dr Pauline Zaenker represented the research team and presented at the Rotary Club of Matilda Bay in August 2020. Dr Zaenker focussed her talk on skin cancer awareness education, our latest results, and a call for blood donations for our MelDx™ diagnostic melanoma blood test study. Out of the more than 40 attendees, many later contacted Dr Zaenker to participate in our research, for which we are very grateful.

Dr Zaenker also presented at other community centres including the Victoria Park Village Hub. They were delighted that more attendees came forward to support the research team with blood donations.

Thank you!



SHOWCASING RESEARCH

A/Prof Elin Gray presented at the Melanoma Research Foundation (MRF) and Cure Ocular Melanoma: Eyes on a Cure Symposium in November 2020 (Virtual Event) and the Australasian Genomic Technologies Association: Cancer Genomic Technologies in September 2020 (Virtual Event).

Associated Professor Elin Gray also presented at the 24th International Human Genome Meeting (HGM2020) in April 2020, and Dr Weitao Lin presented at the associated Early Career Researchers Symposium.

The ASMR Medical Research Week® Scientific Symposium in Western Australia was held virtually on the 11th and 12th November 2020. Postdoctoral research fellow Dr Pauline Zaenker presented her recent findings on a case study on a rare toxicity from immunotherapy in a patients with melanoma, Master student Désirée Sexauer presented an overview about her research project on autoantibodies as prognostic biomarkers for cutaneous melanoma. PhD student Du-Bois Asante presented his research findings on the development of new method for recognition of tumour cells in the blood of patients with ovarian cancer. All presentations were well received by the virtual audience.

To promote a collegial and supportive research culture among research disciplines of Edith Cowan University the Early and Mid-Career Researcher Network (EMCRN) was established to offer early and mid- career researchers the opportunity to showcase their research. Postdoctoral research fellows Dr Pauline Zaenker, Dr Leslie Calapre and Dr Weitao Lin presented recent findings at the EMCRN Symposium on the 16th of November 2020. Our congratulations to Dr Leslie Calapre, who presented on blood biomarkers for melanoma, as she was honoured to receive the ‘Best Oral Presentation’ award.

Master student Désirée Sexauer also presented her research project autoantibodies as prognostic biomarkers for cutaneous melanoma as a poster and virtual presentation at the 33rd Annual Lorne Cancer Conference 2021.

Dr Pauline Zaenker has presented her recent findings of Tropomyosin Autoantibodies Associated with Checkpoint Inhibitor Myositis via a poster and presentation at the World Congress of Melanoma 2021.

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HOW YOU CAN SUPPORT MELANOMA RESEARCH AT ECU

Associate Professor Elin Gray and her team are leading the world as they work to assist the many patients in Australia and and globally who are diagnosed with melanoma. The team are committed to positively impacting the lives of people who are facing their own melanoma journey.

You can support Melanoma research by donating to the ECU Foundation. Your donation will be directed to the Melanoma Research Fund which assists the research into Melanoma activities at ECU. Donations of $2 and over are tax deductible.*

100% of your donation is immediately delivered to ECU Melanoma Research with Edith Cowan University bearing all associated administrative costs.

For queries about making a gift now, or planning a gift in your Will, please contact a member of the Development team. We would welcome the opportunity to discuss with you your fundraising priorities. All conversations will remain confidential.

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THANK YOU

Our breakthroughs and discoveries make a great impact on people living with melanoma, and those at risk of developing melanoma.

You are an integral part of this journey. Without your generosity we would not have made it this far, thank you.

Your support is saving lives.

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