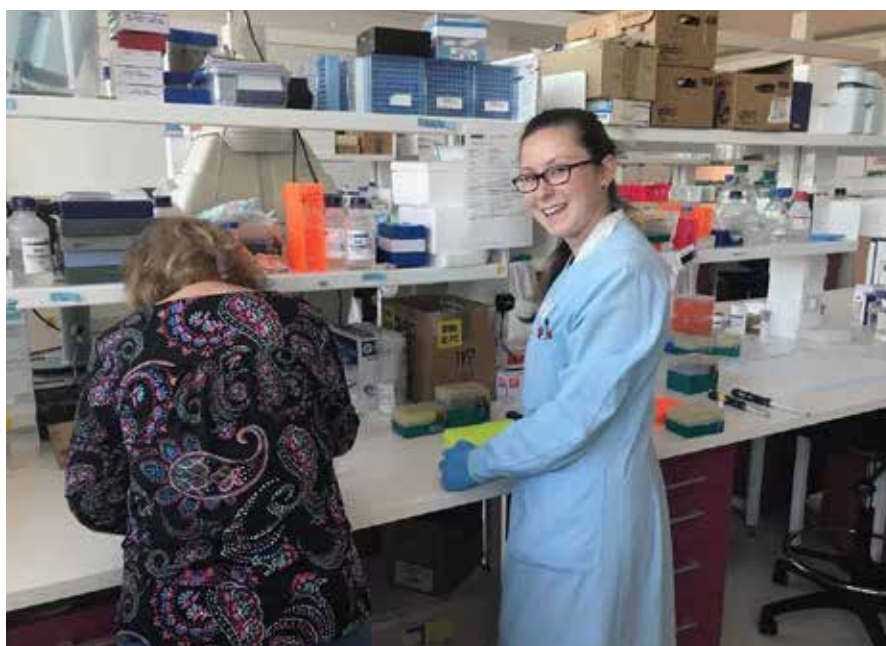




COMMUNITY FORUM



SARAH DART (AND BEV!) ON THE LAB TOUR.

Asbestos Awareness Week was held from 19-23 November in Western Australia, and NCARD held a Community Forum in the Harry Perkins Institute for Medical Research, where our Centre is based, to share aspects of our research, in lay language, with anyone interested. We were thrilled to have a full house, and a capacity group to tour the laboratory afterwards.

While asbestos exposure is, sadly, an undeniable aspect of the Australian landscape, it is arguably nowhere more so than in Western Australia, where so many of our family members, friends, parliamentarians, neighbours – and patients – at some time lived, worked or holidayed in Wittenoom in the Pilbara.

Our colleagues from the Institute for Respiratory Health, Professor Fraser Brims and Dr Sally Lansley “bookended” the presentations. Fraser took us from a brief history of Wittenoom through to the Asbestos

Review Program. A number of audience members have been Review Program participants for many years, due to their connections with the town, and have gone from Vitamin A through to today’s low dose CT scans, with many blood tests along the way.

Sally’s talk explored the fascinating possibilities of returning to the study of bacteria to fight mesothelioma, while senior NCARD researchers Professor Anna Nowak and Dr Joost Lesterhuis gave very engaging presentations about recent and upcoming clinical trials, and the arduous, but sometimes

In this issue

Full House at
Community Forum

Laurie Kazan-Allen’s “Ban
Asbestos” Family Photo Album

ELISpot for Dummies

NCARD Highlights



REBECCA FROM THE ASBESTOS DISEASES SOCIETY AND THE PIPETTE CHALLENGE.

rewarding, process of finding drug treatments, which explained two unappealing aspects of cancer research: why we use mouse models, and why research can take so long!

Two of Anna’s PhD students – Wes Wilson, and Melvin Chin – between them demystified radiotherapy, immunotherapy, and processing huge amounts of data with the use of supercomputers.

After the six presentations, a group of more than 20 toured three different stations in the NCARD laboratory, with research assistants Sarah Henn and Justine Leon respectively teaching the fine art of pipetting, and showing mesothelioma cells and their tendency to clump together. In the tissue culture laboratory, PhD student Caitlin Tilsed demonstrated the process of growing tissue culture. Also on display, however, was enthusiasm, pride, dedication and professionalism, none of which was lost on our laboratory visitors.

Below are just some of the wonderful comments received in emails that were coming for days afterwards. Not surprisingly, we are absolutely committed to making this an annual event.

I thoroughly enjoyed the community forum yesterday. We try to get to medical conferences so we can gain a better understanding of the medical, scientific and research aspects relevant to the work that we do. However, most of the time, it goes over our heads a little bit! I thought all the presentations yesterday were excellent for those in the community without a medical/scientific background. Well done to you and the NCARD team for organising.

Tricia Wong,
Slater & Gordon

I think the format and length of the Forum was just right. The content was excellent and engaging and, together with the opportunity to participate in the lab tour, gave me a great appreciation of the research work being done.

Lyn David

It was refreshing to hear from all of the speakers and their explanations in plain language has given me a greater understanding of the important work they are doing. By having all of these presenters in the one forum certainly highlights the vastness of the work that not a lot of people are aware of that is being done to combat mesothelioma.

Colin Bird



A CAPACITY AUDIENCE LISTENS TO PROFESSOR ANNA NOWAK'S PRESENTATION.



WES WILSON ILLUSTRATES IMMUNOTHERAPY.

Just a quick note to let you know how much I enjoyed the community forum on Tuesday. It was an interesting and engaging evening. The content seemed very appropriate for an audience, like myself, with limited scientific knowledge.

Anna Nankivell,
Cancer Council of WA

I thought the Forum was excellent and so informative. Especially the range of information that was provided and the way it was conveyed. Understandable to a lay person like me.

Carole Kagi

The NCARD Community Forum was great! It was terrific to have experts talk about – in lay terms – the vital work they're doing. All did this really well and it seems to me that it was also clearly appreciated by people in the audience who have been affected directly or indirectly by mesothelioma and other lung cancer diseases. It was also great for them to have an opportunity to ask questions directly of the experts. Well done and I hope this becomes an annual event.

Eleonore Fuchter,
Cancer Research Trust

LAURIE'S FAMILY PHOTO ALBUM



THE NCARD TEAM AND VISITORS: FROM LEFT: SHAOKANG MA, DR IAN DICK, MAY YAP, TRACY HAYWARD, JOEL KIDMAN, SARAH DART, PROF BRUCE ROBINSON, DANIKA HOPE, DR ALISTAIR COOK, PROF BILL MUSK, DR ALEC REDWOOD, DR SCOTT FISHER, LAURIE KAZAN-ALLEN, DR JON CHEE, PROF ANNA NOWAK, DR JOOST LESTERHUIS, EBONY HOPE, TOM CASEY, EBONY ROUSE, ANDRE WANG, JUSTINE LEON.

Raconteur: a person who tells anecdotes in a skilful and amusing way.

The timing could have been better: Laurie Kazan-Allen, Coordinator of the International Ban Asbestos Secretariat (IBAS), was just a day or two from getting on the plane from London for a family visit in Australia when she was asked* if, while she was in Perth, she could update the NCARD team at a lab meeting about global anti-asbestos advocacy.

Undaunted, Laurie suggested she pick out "12-15 iconic photos of the last 25+ years' worth of ban asbestos campaigning" and give the context of each. That way, she said, if she wasn't able to get to visit the group, she would at least have enjoyed "a stroll down memory lane".

And thus the Photo Album of the 21st Century Ban Asbestos Campaign – with 48 photos – came to be. Laurie gave a presentation at the lab meeting on 30 August, naming key players and putting into context actions, protests, meetings and events, from parliaments to pavements, from many points of the globe, across three decades. We were pleased to be joined by Professor Bill Musk; surprisingly, the

coffee afterwards is apparently the longest opportunity that these two important figures in the asbestos treatment and advocacy landscape have ever had to talk.

Laurie's respect for those who have suffered or are suffering from asbestos cancer and yet who bravely and imaginatively stand up to create change is evident, and she shares her stories with great humour and passion. A stand out anecdote was of the British police who pointed out that the group who were assembling in front of the Russian Embassy in London, all wearing Putin face masks, could be considered to be acting unlawfully; but simply by crossing the road they were clearly there for a "photo opportunity"

The reach and impact of asbestos is felt in a bewildering number of countries, from Slovenia to Japan, Canada to Cambodia, Belgium to Bangladesh. The struggle to change laws and acknowledge the continuing danger created by asbestos mining, manufacturing has had both wins and setbacks, but is far from over. Thanks for sharing your experiences, Laurie.

**By me – sorry, Laurie! Tracy Hayward*



A 'PHOTO OPPORTUNITY' IN LONDON.



"THE TRUMP SEAL OF APPROVAL". BACKGROUND: ON JULY 11, 2018, THE ENVIRONMENTAL WORKING GROUP, A US NON-PROFIT ENVIRONMENTAL ORGANIZATION, REPORTED THAT WORKERS FROM THE RUSSIAN COMPANY URALASBEST, ONE OF THE WORLD'S LARGEST ASBESTOS PRODUCERS, HAD REPAID DONALD TRUMP'S MUCH-VALUED SUPPORT FOR ASBESTOS BY PUTTING HIS PICTURE ON PLASTIC-WRAPPED SHIPMENTS OF CHRYSOTILE (WHITE) ASBESTOS. THE IMAGE WAS ACCOMPANIED BY THE WORDS "APPROVED BY DONALD TRUMP, 45TH PRESIDENT OF THE UNITED STATES" [LKA BLOG].

Enzyme Linked Immunospot or ELISpot Assay for Dummies

CATHERINE FORBES

Background

All cells have proteins (or antigens) on their surface; which antigens is something controlled by DNA.

In cancer cells, changes (or mutations) in DNA are common; these can result in changes in normal antigens, resulting in "new" antigens, called neoantigens.

We are interested in whether these neoantigens are recognised by the immune system as being different to normal antigens. If they are, can the immune response destroy the cancer cells that express them?

Why do we use ELISPOT in our lab?

We use ELISPOT to look for activation of part of the immune system: the T-cells. A T-cell will only become activated when it sees something it recognises as being "not normal". In our case we are looking for T-cells that are activated by neoantigens. When a T-cell is activated it releases Interferon-

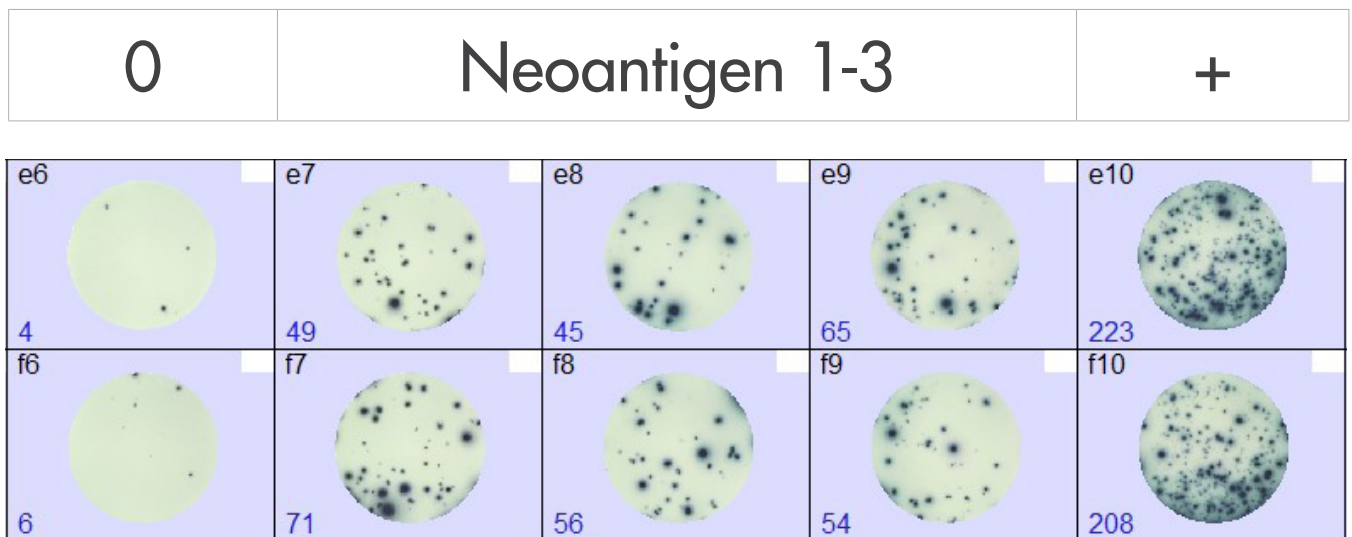
gamma (INF-gamma) and the ELISpot assay is used to detect this at the single cell level.

How does the ELISPOT work?

First, "capture" antibodies that bind INF-gamma are added to a 96 well tray and stick to a special membrane on the bottom of each well.

Next, the patient cells and neoantigen to be tested are added to the wells of the tray. If the patient sample contains any T-cells that recognise the neoantigen they will be activated and produce INF-gamma. This will bind to the "capture" antibodies where that cell is.

Then, the INF-gamma producing T-cells in a patient sample are visualised using a chemical reaction that leaves a blue spot where INF-gamma is bound to a "capture" antibody. The spots can then be counted with an automated ELISpot reader, and the number of positive cells in a patient sample recorded.



DUPLICATE WELLS SHOWING ELISPOT RESULTS WITH ADDITION OF NO NEOANTIGEN, NEOANTIGEN 1, 2 OR 3 AND A POSITIVE CONTROL ACTIVATING ALL T-CELLS.

NCARD HIGHLIGHTS

JULY

Convocation Travel Award



RACHAEL RECEIVES HER CONVOCATION AWARD AT THE AUGUST CEREMONY.

Rachael Zemek added to what has been rather a stellar final year of her PhD with a Convocation Award: the UWA Geoffrey Kennedy Postgraduate Research Travel Award Postgraduate Research Travel Award for 2018. Rachael's application was highly recommended by the Convocation Awards Committee, and enabled her to attend the ECI. Rachael writes:

Recently I was off to Amsterdam to present at the 5th European Conference of Immunology. This was an extremely large conference with



RACHAEL VISITING THE RHINE VALLEY WITH AYESHA AND SAMANTHA, FORMER HONOURS STUDENTS AT TELETHON KIDS INSTITUTE NOW STUDYING IN GERMANY.

thousands of attendees, giving my "small" talk to a crowd of 400 people. My talk was again met with a positive response, with great interest and many questions from several researchers. In addition, I have recently been invited by Professor Angus Dalglish from the Institute for Cancer Vaccines and Immunotherapy in London, who saw my talk at ECI, to talk at their conference next year.

Whilst in the Netherlands I visited the laboratories of Professoor John Haanen at the Netherlands Cancer Institute, Professor Jolanda De Vries at Radboud University Medical Centre, and Professor Sjoerd van der Berg at Leiden University Medical Centre. It was a great experience to appreciate how other laboratories function and see some of the amazing research they are currently working on.

The next part of my journey as a researcher is to finish writing up my PhD whilst working at TKI [the Telethon Kids Institute] setting up the lab for the new Sarcoma research group.

Rotary Speaker

Professor Anna Nowak was invited to be the Friday lunch speaker at the Perth Rotary Club on 20 July 2018, and gave a presentation about the DREAM Trial to interested and positive feedback.



ROTARIANS WESLEY SIM AND STEPHEN INOUEY FLANK PROFESSOR ANNA NOWAK AND JO MORRIS FROM REFLECTIONS THROUGH REALITY. ON RIGHT, BRUCE WATKINS AND JENNIFER STANFORTH-SMITH FROM REFLECTIONS THROUGH REALITY, AND STEFANIE BLACK.

AUGUST

Wittenoom Memorial

A number of us from NCARD were honoured to be invited by the Asbestos Diseases Society of Australia to be part of a large crowd which gathered on Saturday 18 August at Solidarity Park in West Perth – across the road from WA's Parliament House – to see the unveiling of a plaque to commemorate the victims of asbestos disease. Wittenoom is acknowledged as the largest industrial disaster in Australian history. We stood alongside parliamentarians, union leaders, lawyers, and former Wittenoom residents, many of whom have lost loved ones, and have lived for decades with the possibility of developing an asbestos related cancer themselves. Melita Markey, Chief Operating Officer of the Asbestos

continued on next page



DR MELVIN CHIN WITH LEO CICHINI, A FORMER WITTENOOM WORKER AND LONGTIME ASBESTOS REVIEW PROGRAM PARTICIPANT.



Diseases Society, noted that it had long been the work and dream of herself and Lyniece Boliho, the organiser of the group Lost Wittenoom, to organise such a memorial, and she was so pleased that they had finally achieved it. Lyniece was born in Wittenoom, and has lost a heartbreaking number of relatives to mesothelioma; her story was featured by the ABC and others.

The Memorial was an initiative of both the Asbestos Diseases Society of Australia and Unions WA.

SEPTEMBER

Movie Fundraiser

NCARD has just formalised its affiliation with the Institute of Respiratory Health (IRH). Sarah Cermak, IRH's Business Services and Communications Manager, suggested that we join them in this year's film fundraiser on 20 September, and the night, a screening of Ladies In Black in the wonderful Art Nouveau Cygnet Cinema in Como was a great success. NCARD Chair John Akehurst donated two cases of a delicious Semillon Sauvignon Blanc discovered felicitously in a potato shed at a former Pemberton property. The cheese platters were contributed by NCARD, funded by the team's selfless chocolate-eating habits.



FROM LEFT: LAURIE KAZAN-ALLEN, BAN ASBESTOS SECRETARIAT; ROSE MARIE VOJAKOVIC, ASBESTOS DISEASES SOCIETY OF AUSTRALIA; PROFESSOR ANNA NOWAK, DR SCOTT FISHER, TRACY HAYWARD, DR MELVIN CHIN, SHAO KANG MA.

By chance, the fundraiser was held in the middle of the unfortunate strawberry tampering scare, so several punnets of strawberries were purchased in support of strawberry growers and cut into pieces as per the WA Department of Health directive. If I had had a dollar for every person who made a remark...

End of ADS Walk

We were back at Solidarity Park on 14 September to support and congratulate the intrepid fund and awareness raising Asbestos Diseases Society walkers, who this year went from Wave Rock and Hyden, to Kulin, Quindanning, Harvey, Yarloop and Serpentine, no mean feat! (And we think there was a record number of NCARD staff who joined in for the

continued on next page



DR JOOST LESTERHUIS ADDRESSES THE ASSEMBLED CROWD.



THE NCARD SUPPORT TEAM.

last leg of the walk – the easy bit, from Wellington St Train Station, although the Mount Street hill seems to get steeper every year).

OCTOBER

Lisa Daffen visits

It was a pleasure to meet with recently appointed Assistant Director of the Asbestos Safety & Eradication Agency (ASEA) Lisa Daffen while she visited her home town of Perth. Lisa, who has a background in workplace health and safety and was a senior inspector for Comcare before joining ASEA, wanted to take the opportunity to meet with stakeholders in the asbestos field. She met with NCARD Assistant Director Richard Lake, and was given a tour of the NCARD laboratories.



PROFESSOR RICHARD LAKE WITH LISA DAFEN.



PROFESSOR JENETTE CREANEY IN THE LAB WITH BIOMARKERS TEAM MEMBERS EBONY ROUSE AND JUSTINE LEON.

Annual Scientific Meeting

The NCARD ASM was held "in house" in the Perkins building this year, on Friday 19 October. The event was rather low key compared to previous years, and there were no guest speakers. Nonetheless, the presentations were extremely varied, and the discussion was vigorous and engaged. It was noteworthy that the Institute for Respiratory Health's



THE TRADITIONAL ASM GROUP PHOTO, MINUS A FEW TEAM MEMBERS.

Professor Gary Lee, in presenting a talk about streptococcus pneumoniae, described himself and other respiratory physicians removing pleural fluids as "qualified plumbers"; while Dr Melvin Chin, in describing the GENIE3 network algorithm said "there is nothing sophisticated about computation: it's essentially a lot of grunt work". It is doubtful that most of us would find presentations and exchanges about DNA mutations, cancer vaccination, mass spectrometry, checkpoint blockade, hypoxia and BAP-1, amongst other topics, unsophisticated, but the annual scientific meeting provides an opportunity for groups within the Centre to share and compare their projects, data and findings, an inspiring exchange for all of the researchers, research assistants, PhD students and the Honours students just completing their year with NCARD. In future we will need to timetable the traditional group photo a little better, before some of the group inevitably need to attend to other commitments.

NOVEMBER

Melbourne Cup Lunch

The Institute for Respiratory Health has been hosting a Melbourne Cup fundraising lunch for 15 years to raise funds for the Glenn Brown Memorial Grant into cystic fibrosis research. Glenn was a boy from Kalgoorlie with cystic fibrosis, who told Janeine and Alison, both mothers of children with cystic fibrosis, that he was afraid of being forgotten. He died at 15, and since then Janeine and Alison and a phalanx of volunteers have organised the fundraiser in his memory, now held at Fraser's Function Centre in Kings Park with several hundred guests. Thus there is a poignant background to a day of games, prizes, fascinators and hilarity, and there wasn't a dry eye in the house after 14 year old Sarah Kerr spoke about life with cystic fibrosis before and after receiving a lung transplant. (The MC for the day, The Famous Sharron, was mopping up

continued on next page



THE FAMOUS SHARRON WITH IRH MELBOURNE CUP LUNCH ORGANISERS AND VOLUNTEERS.

tears from her sequins, and gave Sarah her fabulous boa to wear for the rest of the afternoon). NCARD's Dr Alistair Cook and Sarah Dart volunteered to help on the day, and we can now variously add greeting, managing a tombola, covering chairs and running a Powerpoint and sound deck to our skill sets. The lunch raised more than \$33,000 for research. Hearty congratulations to Sarah Cermak and Alison Harvie for managing such a multi-faceted and exhausting success!

NOVEMBER/ DECEMBER

COSA and ASI

Two Annual Scientific Meetings have been held in Perth recently, with NCARD staff on the organising committees or playing a major part in setting the direction of the meetings.

The Clinical Oncology Society of Australia (COSA) was held at the Perth Convention Centre from 13-15 November. Mesothelioma was a focus, and the meeting attracted substantial media attention, with Professor Anna Nowak interviewed on radio, television and in the press. (More can be found on the National Centre for Asbestos Related Diseases Facebook page).

Professor Dean Fennell from the University of Leicester, who was here for COSA, took the opportunity to make a flying visit to NCARD before heading out to the airport and back to weather in sharp contrast to Perth's. He was welcomed by numerous NCARD researchers making the most of his brief visit.

A very large proportion of NCARD staff presented, attended, or exhibited posters in the Australasian Society of Immunology meeting, held at the



ON THE DNA STAIRS AT PERKINS: CLOCKWISE, FROM TOP LEFT: PROF DEAN FENNELL, UNIVERSITY OF LEICESTER; DR JOOST LESTERHUIS AND DR JON CHEE, NCARD; DR SALLY LANSLEY, INSTITUTE FOR RESPIRATORY HEALTH; DR CAROLYN MCINTYRE, EDITH COWAN UNIVERSITY; PROF RICHARD LAKE, DR SCOTT FISHER, PROF ANNA NOWAK, NCARD.

Pan-Pacific Hotel from 2-6 December. Dr Scott Fisher was Conference Co-Chair, with Connie Jackaman from Curtin University. Again, Dr Joost Lesterhuis took the opportunity to invite Professor Phil Hodgkins from Melbourne's Walter & Eliza Hall Institute (WEHI) to meet with research collaborators from NCARD and elsewhere at UWA.

DECEMBER

A word from a Cancer Council Vacation Scholarship student



ALI ISMAIL.

Hello! My name is Ali and I am a first year medical student at UWA. This summer I have been fortunate enough, with help from a Cancer Council WA vacation scholarship, to be able to



NCARD REPRESENTS @ ASI! FROM BACK LEFT: NICOLA PRINCIPE, JOEL KIDMAN, DR JON CHEE, DR SCOTT FISHER, DR ALISTAIR COOK, WES WILSON. FRONT: RACHAEL ZEMEK, CAITLIN TILSED, SARAH DART, DR JOOST LESTERHUIS, SHAOKANG MA.

work with NCARD as part of a very exciting study on malignant mesothelioma (MM). In the next 5-6 weeks, I will be collecting, compiling and analysing clinical data from patients with MM undergoing chemotherapy. The aim is to determine whether immune biomarkers found in pleural effusions, rather than the blood, can more sensitively predict patient clinical outcomes. Ultimately, we hope for this research to guide the development of chemo-immunotherapy clinical trials and optimise treatment of MM.

After a long and hard year of uni, I was uncertain about wanting to continue the mental exertion over the summer holidays. I then realised that opportunities like this are quick to pass, and there was no guarantee I could afford the same time, meet the same people and enjoy the same learning experience again. I also realised that two whole weeks gave me plenty of time to recover from the gruelling period of exams, so off to Bali I went. Now, with a clear mind (I think), I am thrilled to finally get a taste of what medical research is like.

Interestingly, I was quick to discover that research is heavily self-directed, which has left me contemplating whether I should take 3 hour lunch breaks or endeavour to work and learn efficiently. Either way, I am very grateful to be a part of the team and look forward to contributing something meaningful during my placement here at NCARD.

Kudos to Ali who wrote this refreshingly honest contribution on his third day here. One of several outstanding vacation scholarship applicants, we're looking forward to a mutually rewarding time.

This newsletter is compiled and written by Tracy Hayward, Admin Officer, NCARD.
Design by UniPrint, The University of Western Australia.
Comments or enquiries:
Ph. 08 6151 1078
Email: tracy.hayward@uwa.edu.au



Find us on Facebook