

# RODS



June 2017  
Issue No 164

**Volunteers  
Fighting Blindness**

**Quarterly Journal of  
Retina Australia (NSW) Inc.**

## **RETINA AUST (NSW) SUPPORTING THE VISION INITIATIVE**

The Retina Australia (NSW) Council is very proud to be allocating \$40,000 to support The Vision Initiative (TVI), a specialist unit within the Children's Medical Research Institute at Westmead. The research is specifically targeted at Retinitis Pigmentosa (RP) and related conditions.

TVI has the ambitious goal of restoring vision to patients with genetically determined blinding retinal disorders (RP). To meet this ambitious goal, TVI will bring together researchers with international expertise to apply breakthroughs in genome engineering, sequencing, vector and stem cell technology; clinical, social, and economic tools; and community and industry connections to create a new consortium that will address this currently insoluble problem leading to lifelong blindness.

There are significant problems to overcome to treat the blindness that occurs from RP. There is a need for improved methods of delivering treatments to the relevant retinal cells. In addition, an efficient strategy is needed to identify the most effective treatment mode such as knockdown or correction of genetic variants in disease models, which can be applied to human retinal tissues. The TVI team will address these problems, in combination with plans for clinical trials and assessment of the societal and economic value of the work, to maximise research outcomes and translate to therapies for blindness.

The eye is an ideal organ to apply new genome engineering, AAV, stem cell and other therapeutic technologies, due to its relatively small size (so less demand on the scale-up of the technology), and the ease of accessibility. The Chief Investigators (CIs) have collaborations in place

(continued on page 5)

## IN THIS ISSUE

RETINA AUST (NSW) SUPPORTING THE VISION INITIATIVE.....	1
IN THIS ISSUE.....	2
PRESIDENT’S REPORT.....	3
RETINA AUST (NSW) SUPPORTING THE VISION INITIATIVE.....	5
\$1M GRANT AWARDED FOR DIAMOND BIONIC EYE.....	6
THE ADVANCE OF DIAMOND TECHNOLOGY.....	7
OXFORD STUDENT CREATES FIRST SYNTHETIC RETINA.....	8
YOU CAN’T ASK THAT SERIES 2: BLIND PEOPLE.....	9
BLIND WRITER ADVISES NASA ABOUT WORKPLACE DIVERSITY ...	10
EYE TRIVIA.....	11
CERA LOOKS TO THE PROMISE OF DRIVERLESS CARS.....	12
DONATIONS AND BEQUESTS TO RA NSW.....	14
OPPORTUNITY TO JOIN THE RA NSW BOARD.....	14
USING CRISPR TO REVERSE RP AND RESTORE VISUAL FUNCTION	15
NHMRC AWARDS \$678K GRANT TO FURTHER AUSTRALIAN RESEARCH INTO CRISPR TECHNOLOGY.....	16
RECIPE: ROBYN’S LASAGNA.....	17
VALE – DIANE SMUC-DEGGENS.....	18
W.W.B.....	19
UPCOMING EVENTS.....	19
IN THE NEXT ISSUE.....	19

## PRESIDENT'S REPORT

You would be aware, through my previous reports, that Retina Australia (NSW) has decided that a more targeted approach to funding research is required. For that reason we will be making our own decisions on where the hard earned funds will be allocated.

After careful consideration the Retina Australia (NSW) Board has decided it will allocate research funds of \$40,000 to "The Vision Initiative" which is being undertaken by a specialist unit within the Children's Medical Research Institute at Westmead. The research is specifically targeted at Retinitis Pigmentosa and related conditions.

A full summary of "The Vision Initiative" is in this edition of RODS.

We are excited about this project. It is targeted, has specific measurable goals, and is being conducted at a world class research facility.

But we are also pleased that we are joining with Sydney University who are also funding this project. Their pledge is for \$100,000. This collaborative approach brings a new dimension to how we fund projects.

To use a Rugby Union analogy, it's a bit like a rolling maul - as more and more players join the maul, the momentum builds and progress steams ahead (for those not familiar with Rugby Union, my apologies). That's what has happened with this project; other potential donors have become aware of the support of Sydney University and RANSW and are also donating funds.

This is a new approach by RANSW and one that your Board is proud of.

We know, only too well, how hard it is to raise funds, and this approach will ensure the funds are wisely allocated.

A recent report commissioned by Save Sight Institute, estimated that blindness in the Australian community alone will have an economic cost of approx. \$18.7 billion in 2017. I find that figure staggering but when you consider all the factors it is quite believable. If this were any other area where there was such an economic cost the Federal and State Governments would be looking seriously at finding a solution. There is some momentum in bringing this issue to the attention of the politicians.

Firstly the Save Sight Institute is pushing this issue and the MD Foundation is equally pushing this forward. There is some traction as I have been informed the State Government has commissioned KPMG to carry out some research on the issue. This information only came to me in the last few weeks and I am still trying to get together with KPMG to put our thoughts and our support to them. These reports tend to take a long time before anything tangible is seen but the fact that there is a report being prepared is encouraging.

As you would be aware our offices are located at Vision Australia's premises at Enfield. The property has been sold and settlement is expected at the end of July. Vision Australia has a three-month extension to operate from the premises after settlement, if required, and it is likely they will exercise that option. The sale and relocation means we will not have any premises from which to operate in the coming months. Vision Australia is hoping to offer us a small area in a new facility and I am in constant dialogue with Vision Australia about the relocation and our needs. If you have a spare 20 square metres of office space available from which we might operate we would love to hear from you.

Finally, a word about change. We are in a constantly changing world. What is happening politically around the world is testament to that. It is how we deal with that change that defines us. Change can be slow or be forced upon us without any warning. Here is a memorable quote which sums up the changes we have made in RA NSW over the past year.



Change the  
changeable,  
accept the  
unchangeable,  
and remove  
yourself from  
the unacceptable.

- DENIS WAITLEY

Bruce Richards

President

*(continued from Page 1)*

with national and international leaders in AAV and stem cell technologies, as well as clinical trial collaborators, and social, ethics and economic researchers, which will contribute to this research program as the TVI progresses. Industry partnerships of the CIs in vector technology will facilitate scale-up and future commercial opportunities. The CIs have strong community relationships with Retina Australia, and service groups committed to improved treatments for patients with blindness.

Specific outcomes in the first 12-18 months will be:

1. Facilitation of a new collaborative approach to maximise research excellence and leadership in the area of treatment of blindness where no therapy is currently available
2. Pilot data and research outputs in areas including:
  - Establishment of methods of maximised delivery of treatment modality using AAV technology
  - Development of constructs for use in treatment pipeline
  - Establishment of health, economic and social impact data to address the economic and social issues related to RP diagnosis and treatment, and development of approaches to explore the ethical and legal issues around novel diagnostics and therapies.
  - Investigator workshops to facilitate and coordinate the cross-disciplinary collaborative research to be undertaken in the TVI.
  - Workshops with patient support organisations e.g. Retina Australia, to facilitate consumer engagement and recruitment,
3. Future grant applications will be facilitated by the pilot data and will allow applications in the areas of:
  - the various types of RP, where the advances it makes in AAV, genome engineering, stem cell technologies, ethical and societal approaches will have specific applications.
  - clinical trials of new treatment applications in RP.

Keep an eye out for updates in RODS as the TVI progresses.

## **\$1M GRANT AWARDED FOR DIAMOND BIONIC EYE**

**Date:** 9 November 2016

**Source:** *iBionics, Canada*

Researchers from the Department of Physics at the University of Melbourne (Dr David Garrett and Professor Steven Praver) and the National Vision Research Institute (NVRI) of Australia founded by the Australian College of Optometry (Professor Michael Ibbotson and Associate Professor Hamish Meffin) have won a \$1million grant from the National Health and Medical Research Council (NHMRC). The grant will be used to help demonstrate that their next generation diamond retinal implant can dramatically improve the quality of vision experienced by bionic eye users.

“With a growing team of outstanding local and international researchers, we have a real opportunity to provide a truly effective treatment for forms of blindness that have, until very recently, been incurable,” says Dr David Garrett, Department of Physics at the University of Melbourne.

The grant will be used to fund vitally important validation studies. The research is backed by Canadian company iBIONICS, which is commercialising the Melbourne-based invention. iBIONICS is complementing the Australian technology with world-leading photonics research and high reliability microsystem development to bring the bionic eye solution to the global market. Canadian surgeon and global retinal expert, Dr Flavio Rezende, is developing safe surgical methods to implant the device.

“This grant will allow us to demonstrate and refine the patterns of stimulation used in the diamond bionic eye implant that will result in users being able to read large print and recognize the faces of loved ones,” says Professor Steven Praver, Department of Physics, University of Melbourne, and Cofounder and Chief Technology Officer of iBIONICS.

Retinal implants are devices that are implanted into the eye. By pulsing the electrodes with very small packets of electricity, researchers can trick the brain into perceiving a spot of light. The diamond device under development in Melbourne has 256 electrodes with the possibility of

increasing to 1024. With 1024 pixels of light perceived in the brain, users of bionic retinas might be able to recognise faces, read and navigate freely without the use of a dog guide or cane. Retinal implants are beneficial to patients who have degenerative retinal diseases, such as retinitis pigmentosa (RP) or age-related macular degeneration (AMD). These diseases affect the ability of the retina to sense light, eventually resulting in blindness.

## THE ADVANCE OF DIAMOND TECHNOLOGY

**Date:** 29 January 2017

**Source:** *mivision*

Diamond technologies are increasingly used in medicine. Being bio-inert, diamonds are not perceived to be foreign to the body, which means they are not likely to be rejected.

Diamond implants will also last longer than traditional implants, because of their inert qualities. It was Prof. Steven Prawer who discovered that diamonds can be used to stimulate nerves, making them useful in the development of implants.

"We have discovered a form of diamond that we can make which is bio-compatible and very good as a stimulating electrode, which means we can put an electrical signal onto it that then causes the neurons to fire and get a response," he told The Age.<sup>1</sup>

Man-made diamonds can be made with methane and hydrogen and "cooked" in five days using the microwave-like diamond reactor. When nitrogen is added, this otherwise insulating material can become conductive, making it ideal for transmitting electrical currents required to stimulate nerves.

The man-made diamonds being used in the iBionics device are black, however the team is currently looking into making them transparent. "Working with transparent diamonds means that in the future we may be able to upgrade the microchips by beaming information directly to the implanted bionic device, much as software is upgraded on a computer," said Prof. Ibbotson. We're looking at a whole new world.

Read the full story at: <https://www.mivision.com.au/diamonds-are-forever-the-evolution-of-the-bionic-eye/>



## OXFORD STUDENT CREATES FIRST SYNTHETIC RETINA

**Date: 4 May 2017**

**Source: University of Oxford**

A synthetic, soft tissue retina developed by an Oxford University student could offer fresh hope to visually impaired people.



Until now, all artificial retinal research has used only rigid, hard materials. The new research, by Vanessa Restrepo-Schild, a 24-year-old doctoral student and researcher at Oxford University's Department of Chemistry, is the first to successfully use biological, synthetic tissues, developed in a laboratory environment. The study could revolutionise the bionic implant industry and the development of new, less invasive technologies that more closely resemble human body tissues, helping to treat degenerative eye conditions such as retinitis pigmentosa.

Just as photography depends on camera pixels reacting to light, vision relies on the retina performing the same function. The retina sits at the back of the human eye, and contains protein cells that convert light into electrical signals that travel through the nervous system, triggering a response from the brain, ultimately building a picture of the scene being viewed.

Vanessa Restrepo-Schild led the team in the development of a new synthetic, double-layered retina which closely mimics the natural human retinal process. The retina replica consists of soft water droplets (hydrogels) and biological cell membrane proteins. Designed like a camera, the cells act as pixels, detecting and reacting to light to create a grey scale image. The Colombian native said: 'The synthetic material can generate electrical signals, which might stimulate the neurons at the back of our eye just like the original retina.'

The study, published in the journal *Scientific Reports*, shows that unlike existing artificial retinal implants, the cell-cultures are created from natural, biodegradable materials and do not contain foreign bodies or living entities. In this way the implant is less invasive than a mechanical device, and is less likely to have an adverse reaction on the body. Miss Restrepo-Schild



added: 'The human eye is incredibly sensitive, which is why foreign bodies like metal retinal implants can be so damaging, leading to inflammation and/or scarring. But a biological synthetic implant is soft and water based, so much more friendly to the eye environment.'

Of the motivation behind the ground-breaking study, Miss Restrepo-Schild said: 'I have always been fascinated by the human body, and want to prove that current technology can be used to replicate the function of human tissues, without having to actually use living cells.'

I want to take the principles behind vital bodily functions, e.g. our sense of hearing, touch and the ability to detect light, and replicated them in a laboratory environment with natural, synthetic components. I hope my research is the first step in a journey towards building technology that is soft and biodegradable instead of hard and wasteful.'

Although at present the synthetic retina has only been tested in laboratory conditions, Miss Restrepo-Schild is keen to build on her initial work and explore potential uses with living tissues. This next step is vital in demonstrating how the material performs as a bionic implant.

Miss Restrepo-Schild has filed a patent for the technology and the next phase of the work will see the Oxford team expand the replica's function to include recognising different colours. Working with a much larger replica, the team will test the material's ability to recognise different colours and potentially even shapes and symbols. Looking further ahead the research will expand to include animal testing and then a series of clinical trials in humans.

## **YOU CAN'T ASK THAT SERIES 2: BLIND PEOPLE**

"You Can't Ask That" is an ABC series released on ABC iview, where each episode asks groups of misunderstood, judged or marginalised Australians the awkward, inappropriate or uncomfortable questions you've always wanted to know the answers to, but always been too afraid to ask.

In Series 2, Episode 1, "Blind People", a group of people who are blind are asked questions ranging from "Why are you blind?" to "How many times a day do you walk into things?" to "Does it matter what the person you date looks like?"

Watch the episode on ABC iview, or online at:

<http://iview.abc.net.au/programs/you-cant-ask-that/LE1617H001S00>

**Date: 15 April 2017**

**Source: CBC/Radio-Canada**

Vancouver-based author Ryan Knighton says although he rarely thinks about the stars, he has been asked to give a keynote speech at NASA's Goddard Space Flight Centre next week.

Knighton was diagnosed with retinitis pigmentosa on his 18th birthday but never let being blind get in the way of his appetite for life. He now teaches creative writing at Capilano University and has written several books about travelling, parenting and life.

Knighton said, that at first he didn't think he could contribute anything to NASA as a writer with little interest in space. But NASA gave him a demographic breakdown of the audience he will be addressing, he told On The Coast host Stephen Quinn, and he was surprised to learn that seven per cent identify as having a disability.

His speech will address diversity in the workplace and the fine line between assimilation and accommodation. One of the things that I've learned over the years is that the rhetoric of diversity has really changed," Knighton said. "We thought for a lot of years about diversity as an issue of accommodation"

But, he said, there is so much more to diversity than simply trying to minimise the differences between people. "We're in a place now where we're starting to recognize that there is a lot of value in the differences between people and you don't want to take all the edges off," Knighton said.

One of Ryan Knighton's most popular books is about parenting blind and his relationship with his daughter Tess Rawa-Knighton, pictured here in 2010. (Jonathan Hayward/Canadian Press)



In his case, Knighton said,

blindness can add rather than subtract from his work. "It took me a long time to embrace that I have a point of view, that blindness isn't an absence of a point of view — it is one," he said.

As an example, Knighton referenced the time he was in Cairo right after the Arab Spring. The political upheavals weren't his main concern — traffic conditions and crossing the road were. "As a travel writer, you can send me to almost any well-covered terrain and suddenly there is a completely different perspective on it," he said. The big message he hopes to share is that you can never know until you try, he said.

In his teaching career, Knighton didn't know what he was going to do as his eyesight diminished and he struggled to read his students' essays. But technology changed and his students now email him assignments, which he reads with a voice synthesizer and types back comments. "You come into something thinking 'I can't do this job,' but 30 years down the road, it's just a different world," he said.

The unpredictability of the future is something for employers to keep in mind too, he said. "I think that is very similar with hiring people with diverse backgrounds and physical capabilities," he said. "You just don't know what you're going to yield from it unless you have that at your disposal."

## EYE TRIVIA

**Source:** The Princeton Eye Group

- The average person blinks 12 times per minute – about 10,000 blinks in an average day
- Only 1/6th of the eyeball is exposed to the outside world
- Eyelashes have an average life span of 5 months.
- About half of our brain is involved in the seeing process. Humans are very much visual animals.
- The external muscles that move the eyes are the strongest muscles in the human body for the job that they have to do. They are 100 times more powerful than they need to be.
- The eyeball of a human weighs approximately 28 grams, or one ounce.
- Ophthalmologists are graduates of a medical school, whereas optometrists are not.

# CERA LOOKS TO THE PROMISE OF DRIVERLESS CARS

**Date: 16 February 2017**

**Source: Centre for Eye Research Australia**

The Centre for Eye Research Australia (CERA) has revealed it is looking to collaborate with companies, industry, and peak bodies in the development of autonomous vehicle systems.

“Australia’s rapidly aging population and increasing incidence of diabetes means that vision-loss is likely to become one of the most prevalent disabilities in Australia,” said CERA Managing Director, Professor Jonathan Crowston.

“Access to mobility services for the vision-impaired will become an urgent priority to maintain quality of life and full community participation,” he said.

CERA, a world-leader in vision research, is proposing a project to assist in the development, implementation, and promotion of autonomous vehicle systems for the vision-impaired.

“We can bring value to the enhancement of these systems in a myriad of ways, from our deep knowledge of the needs of the vision-impaired to our ability to leverage our position affiliated with a top university to harness expertise in the medical, legal and engineering fields,” said Professor Crowston.

Developing systems and enhancements to meet the needs of the vision-impaired will have the added benefit of improving the utility and value of driverless systems for all travellers.

“Now is the time to progress such an initiative and I have asked Steve Hurd, Councillor for the Glenferrie Ward of The City of Boroondara, to coordinate and lead this project as an Honorary Fellow,” said Professor Crowston.

Steve, who was born legally blind holds degrees in Law and Arts and has held various legal and advocacy positions. In addition to being a serving councillor he has strong community and government connections and is passionate about the potential of autonomous vehicles.

Steve has long dreamed of the advent of driverless vehicles.

“It was 1969. Four boys were eating their lunch at school just after the moon landing. Like lots of boys they talked about rockets, cars and of course dreamed of a day they would have their own vehicle. There was one slight problem, these boys were all blind. Tim Palmer, Tim Smith and Michael Holman were sitting with me – nine-year-old Steve Hurd. One of us asked “...I wonder if they will ever make a car we can use?”

“We started breaking down the problems. Being blind you should think like an engineer to problem solve so we put our minds to the task. We realised some navigation system would be required, a radar system and a group of sensors would have to determine proximity.

“Almost 50 years later that is exactly how Google, Tesla and others are solving the problem. Now, I am a councillor at the City of Boroondara and a fellow at the University of Melbourne working on a project to make sure autonomous cars are usable for vision-impaired people.

“When I finally get a driverless car, I will call it Tim Holman as all three of my best friends are no longer with us. Tim Palmer and Mike Holman passed away due to brain tumours and Tim Smith was tragically hit and killed by a car in 1977. They would have loved this project,” said Steve.

The driverless vehicles now being designed and built will have huge implications for people who are blind and vision-impaired.

“It will be the biggest boost for independence, employment prospects and social integration we have ever seen,” added Steve.

CERA already has researchers active in areas relevant to the driverless vehicles. A recent research project, led by Professor Robyn Guymer developed a novel driving simulator assessment to determine the effect of early age-related macular degeneration (AMD) on driving.

Listen to a short podcast interview with Steve Hurd explaining his dream by going to: <https://soundcloud.com/cera-org-au/steve-hurd-dreams-of-driverless-vehicles>

## DONATIONS AND BEQUESTS TO RA NSW

If you are thinking of making a bequest to Retina Australia (NSW) Inc it is important that you are very specific about exactly where you want your bequest to go. Retina Australia (NSW) Inc is a legal entity in its own right and provides funds for scientific research and support for those with retinal degenerative diseases. Retina Australia is a Company and even though we share the same name in part we have absolutely no control over any funds held in the Company name.

The same applies to donations. It is critical that you ensure your donation is sent to Retina Australia (NSW) Inc. If you know of anyone who is thinking of making a donation advise them that Retina Australia (NSW) Inc is the appropriate body for that donation.

### What is a bequest?

A Bequest is a gift through a will. Your gift, be it large or small, to Retina Australia (NSW) Inc. can make a significant and lasting difference to our mission to provide research funds which allow us to continue to fight blindness.

Remembering Retina Australia (NSW) Inc in your will is a way to ensure that your legacy carries on long after you have gone. The next time you update your will, your solicitor can help you to make a bequest.

## OPPORTUNITY TO JOIN THE RA NSW BOARD

The RA NSW Board has a good mix of diversity and a broad skill base.

**But we can always accommodate more members on the Board.**

If you have the skills or know someone who might like to join the Board please contact Bruce Richards on 0418 963 806 or write to [president@retinaaustraliansw.com.au](mailto:president@retinaaustraliansw.com.au)

# USING CRISPR TO REVERSE RP AND RESTORE VISUAL FUNCTION

**Date: 21 April 2017 Source: Science Daily**

Using the gene-editing tool CRISPR/Cas9, researchers at University of California San Diego School of Medicine and Shiley Eye Institute at UC San Diego Health, with colleagues in China, have reprogrammed mutated rod photoreceptors to become functioning cone photoreceptors, reversing cellular degeneration and restoring visual function in two mouse models of retinitis pigmentosa.

In their published research, a team led by senior author Kang Zhang, MD, PhD, chief of ophthalmic genetics, founding director of the Institute for Genomic Medicine and co-director of biomaterials and tissue engineering at the Institute of Engineering in Medicine, both at UC San Diego School of Medicine, used CRISPR/Cas9 to deactivate a master switch gene called *Nrl* and a downstream transcription factor called *Nr2e3*.

CRISPR, which stands for Clustered Regularly Interspaced Short Palindromic Repeats, allows researchers to target specific stretches of genetic code and edit DNA at precise locations, modifying select gene functions. Deactivating either *Nrl* or *Nr2e3* reprogrammed rod cells to become cone cells.

"Cone cells are less vulnerable to the genetic mutations that cause RP," said Zhang. "Our strategy was to use gene therapy to make the underlying mutations irrelevant, resulting in the preservation of tissue and vision."

The scientists tested their approach in two different mouse models of RP. In both cases, they found an abundance of reprogrammed cone cells and preserved cellular architecture in the retinas. Electroretinography testing of rod and cone receptors in live mice show improved function.



Zhang said a recent independent study led by Zhijian Wu, PhD, at National Eye Institute, part of the National Institutes of Health, also reached similar conclusions.

The researchers used adeno-associated virus (AAV) to perform the gene therapy, which they said should help advance their work to human clinical trials quicker. "AAV is a common cold virus and has been used in many successful gene therapy treatments with a relatively good safety profile," said Zhang. "Human clinical trials could be planned soon after completion of preclinical study. There is no treatment for RP so the need is great and pressing. In addition, our approach of reprogramming mutation-sensitive cells to mutation-resistant cells may have broader application to other human diseases, including cancer."

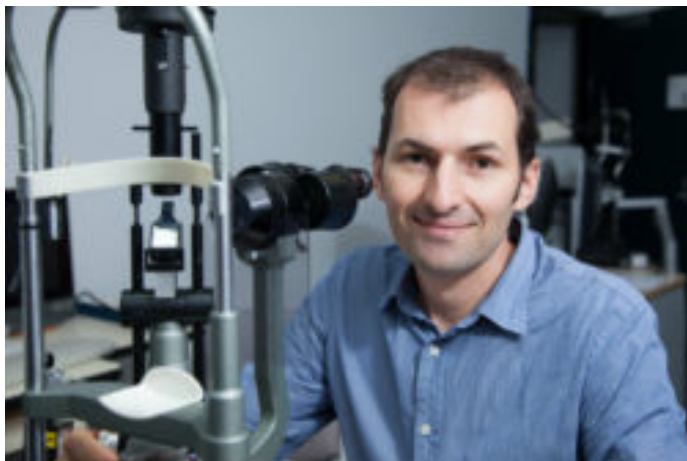
## **NHMRC AWARDS \$678K GRANT TO FURTHER AUSTRALIAN RESEARCH INTO CRISPR TECHNOLOGY**

**Date: 5 December 2016**

**Source: Centre for Eye Research Australia and NHMRC Summary of 2016 Results**

Centre for Eye Research Australia (CERA) researcher Associate Professor Alex Hewitt has been awarded \$678k from the NHMRC to further research into gene editing techniques using the CRISPR tool.

The team has established gene-editing techniques and has developed a novel mouse model, which will serve as a robust platform for testing



different techniques of gene editing in the retina. No other group in the world is known to be using this platform for gene editing and the work will expedite the clinical translation of this technology.

# RECIPE: ROBYN'S LASAGNA

## Ingredients:

- Pre cooked instant Lasagna sheets
- 700g to 1 Kg best mince depending on the size of your Lasagna Dish
- 2 x 500g jars of Raguletto Red Wine pasta sauce or your favourite pasta sauce
- 3 tablespoons butter
- 3 tablespoons plain flour
- Milk
- 250g Tasty Vintage cheese
- Olive oil



## Method:

1. To make the mince mixture, sauté the mince in a large frying pan and when cooked, add the 2 jars of the pasta sauce. Cook for 5 minutes and put aside.
2. To make the cheesy white sauce, place 3 tablespoons of butter in a 1 litre jug, and melt in the microwave for 40 seconds.
3. Add 3 tablespoons of plain flour and mix. If butter is not absorbed, add more flour if necessary.
4. Gradually add milk and stir to avoid lumps until jug is  $\frac{3}{4}$  full.
5. Cook in the microwave on high in 2 minute bursts, stirring after each burst, until thick.
6. When thick and creamy add  $\frac{3}{4}$  of the grated cheese (Use the rest of the cheese to top the dish after layering). Set the cheesy white sauce aside.
7. Spray lasagna dish with olive oil and add a few tablespoons of the mince mixture on base of pan to stop lasagna sheets from sticking.
8. Line the bottom of the dish with the lasagne sheets.
9. Add a layer of the mince mixture.
10. Add a layer of the cheesy white sauce mixture.
11. Add another layer of lasagne sheets followed by another layer of the mince mixture and then another layer of the cheesy white sauce mixture.
12. Top with remaining cheese.
13. Cook at 200 degrees for 45 minutes or until the top is golden brown.

It is with deep sadness that I must advise of the death of Diane Smuc-Deggens on Sunday 21 May 2017 after a battle with melanoma.

Diane was a truly wonderful woman, and a devoted mother.

She supported Retina Australia (NSW) in many ways. Over the years she served on the Board of Management, was assistant to the President, web-master for many years, ran our Facebook page, and was also a great supporter, attending and helping set up our fund raisers.

She was a friend of Robyn and I and the rest of our family, and had a wide circle of people who she counted as friends. Robyn spoke to her just a few weeks ago and she was her usual happy self, and so her death is such a shock.

The words of her brother, Andrew, best sum up the person she was.

Andrew wrote:

Heaven received an angel 😊 this morning. She was my beautiful sister Diane. After losing a long battle with melanoma, my sister Diane passed away at RNS Private Hospital at 3.00am this morning. She was my baby sister, a wonderful daughter, best sister-in-law you could want to Sandra, great friend to many and unconditionally loving mother. I will miss her terribly. My heart bleeds for the pain and suffering she's had to endure. I only hope she can now rest in peace. I will miss you Sis. Love you heaps



**We will miss her more than words can ever express.**

## W.W.B.

### STILL TRAVELLING

We returned today from an extended road trip to meet up with the South Australian part of our family. We have done 4,500 kms. I enjoyed the journey, especially with the insights gleaned from Community Radio Stations along the way.

### CHANGING ENVIRONMENTS

My challenge each night was to discover the intricacies of the plumbing in our room. The location of taps and toilets is difficult enough but discovery of the toilet roll is the supreme task.

### THE BIG SURPRISE

My real discovery on this trip is the improvement in the range and quality of "country" menus with the inclusion of so much local produce and local beverages. What ever happened to the "MIXED GRILL?"

Walterbolin@gmail.com

## UPCOMING EVENTS

Vision Australia provides an excellent listing of events including audio described theatre shows, blind cricket competitions, Vision Australia client days and more at: <http://www.visionaustralia.org/about-us/events>

## IN THE NEXT ISSUE

- Latest research information.
- Your RANSW Committee News



**Volunteers Fighting  
Blindness**



## **RETINA AUSTRALIA (NSW) Inc.**

**PO Box 397 Strathfield NSW 2135**

**Member of Retina Australia**

**Tel: (02) 9744 7738 Fax: (02) 9715 1314**

**Toll Free Helpline: 1300 900 006 (regional callers only)**

**Emails: admin@retinaaustraliansw.com.au  
president@retinaaustraliansw.com.au**

**Website: www.retinaaustraliansw.com.au**

---

Please contact RANSW if you wish to speak to one of our volunteers. Office hours are Wednesday 9.30 – 3.30. However, our telephone is monitored each day and you may leave a message which will be attended to as promptly as possible.

---



**Retina Australia (NSW) Inc. needs your support in fighting blindness. You can help by subscribing to our quarterly RODS magazine, fundraising and or making a donation to Retina Australia (NSW) Inc.**

**This support will enable our volunteers in providing funds for much needed research, information and peer support within Australia for those 1 in 3000 affected by inherited retinal disease such as RP and like conditions.**

---

### **COUNCIL MEMBERS - 2017**

<b>PRESIDENT:</b>	<b>Bruce Richards</b>	<b>SECRETARY:</b>	<b>Robyn Richards</b>
<b>VICE-PRESIDENT:</b>	<b>Debra Hescott</b>	<b>TREASURER:</b>	<b>Andrew Dunn</b>
<b>Councillors:</b>	<b>Robert Craft, Vida Hung, Michael Astrinos</b>		

---

#### **DISCLAIMER:**

Views expressed in this publication are not necessarily those of Retina Australia (NSW) Inc. Retina Australia (NSW) Inc. accepts no responsibility and disclaims all liability for such views as well as for any information contained in articles and summaries of research reports, including but not restricted to, the use of pharmaceuticals or other products, items of equipment or practices. Retina Australia (NSW) Inc. strongly suggests that persons seek advice from their medical practitioners before adopting any changed procedures, practices or products.