



# THE **ACHIEVER**

Retina Australia Victoria

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# From the President Leighton Boyd

## *Retina International World Congress Report*

I was very fortunate to recently be in a position to attend the 16<sup>th</sup> Retina International World Congress with its associated General Assembly and Continuous Education Programme as one of the delegates of Retina Australia. These activities were held between the 24<sup>th</sup> and 27<sup>th</sup> June inclusive in the small town of Stresa, which lies alongside Lake Maggiore in northern Italy. I was accompanied by my wife Rosemary, as well as the President of Retina Australia Graeme Banks, and his wife Lynette, who are both members of Retina New South Wales.

There were in excess of 500 people in attendance during each of the two days of the Congress whose theme was "Change our Vision: Bridging the Gap from the Lab to the Patients". Although the majority of the participants were members of Retina Italy, there were a significant number of people who had travelled a long way to attend the Congress. In all, 28 countries were represented at the Congress.

The program for the Congress included Keynote speakers, and themed parallel sessions, wherein the presenters spoke about their research progress, the results so far and their aims for future investigations. There were over fifty presenters who represented countries including Italy, United Kingdom, USA, Switzerland, Sweden, Germany, Ireland, France and the Netherlands. As many of the sessions were concurrent, Congress participants could choose which of the sessions listed in the program they were interested in and simply go to the allocated venue at the appointed time. All of the presentations made in English were translated into Italian and vice versa to give attendees a clear understanding of the research being undertaken.

After the official welcomes by the Mayor of Stresa, the President of Retina Italia Ms Assia Andrao, and other dignitaries, the President of Retina International Ms Christina Fasser, presented Special Recognition Awards to Professors Gerald Chader, Joe Hollyfield and Eberhart Zrenner, for their contributions to retinal research over the past twenty years. Christina also announced that Professor Matt LaVail would receive a similar award at a forthcoming convention in the USA because he was regrettably unable to be in attendance in Stresa.

The first keynote lecture was presented by Professor Alan Bird, who actually gave one of the main lectures at the 5<sup>th</sup> Retina International World Congress which was held in Melbourne in 1988. He spoke about the developments and lessons learned from research conducted during the past forty years. Alan mentioned the significant work conducted into retinal diseases by Doctors Nettleship, Jay, Kemp, Ernst, Battacharya and Ali. He also stated that the work of these researchers has given us knowledge of genes, and of cells expressing genes and disease mechanisms and that this has led to successful treatment in animal models and subsequently has led to human trials. He

completed his lecture by stating that recent work is very successful and bodes well for the future and that he believed that in the next few years great things will come from the current research.

Professor Gerald Chader, in the final plenary session, presented his perspectives in inherited retinal degeneration research by summarising two decades of progress as the move from “scientific darkness to the light of clinical trials”. He commented that in 1990 no gene mutations for Retinitis Pigmentosa (RP) were known and there was very little idea about mechanisms that could slow down the degeneration. However, nowadays about half of the RP mutations are known and much is known about the mechanism of cell death and how to inhibit it. He also spoke about the clinical trials currently in progress for Neuroprotection, Gene Therapy, Antioxidant Therapy and Electronic Implants. In summing up, Professor Chader stated that:

- (i) we can now treat and, in some cases, virtually cure photoreceptor diseases in many animal models of RP
- (ii) we will soon be able to effectively treat some of the human Retinal Dystrophy conditions
- (iii) the next few years will be very exciting and productive times for both researchers and patients.

The last researcher to speak was Professor Joe Hollyfield whose main interest is in Age-related Macular Degeneration (AMD) and he also spoke positively of the speed in which research has developed during the previous twenty years. He spoke about how informed researchers were nowadays about the causes of both forms of the disease, and mentioned that although some drugs have been discovered to treat dry AMD, many more treatments are being investigated and he is hopeful that in the not too distant future treatments will be available for Wet AMD as well.

The remaining presentations fell into the following categories:

- Clinical aspects of AMD, inherited retinal degenerations and new tools in their diagnosis
- Genetic aspects of retinal dystrophies and new insights into genetic diagnosis
- Different types of retinal dystrophies and some treatment perspectives
- Different pathways from diagnosis to treatment of various retinal dystrophies
- Future therapies, or possible treatment, and rehabilitation

It was interesting to note how many of the presenters spoke about how important it was that people with an inherited retinal disease should ensure that they register their name with an IRD registry and have their DNA tested, so that when a cure or treatment is available they will find out about it. This information was extremely encouraging because it confirmed that Retina Australia’s decision to commit research funds to assist with the establishment of such a registry in Perth, at the Sir Charles Gardner Hospital, was a good one. The statements were also supportive of the fact that we have encouraged members to register with this IRDR & DNA bank.

Another factor mentioned by numerous researchers was the need for caution in using Vitamin A supplements by people with inherited retinal diseases. It was apparent that for some forms of retinal disease, Vitamin A supplements have proven to slow down the degeneration of the disease. However, for Stargardts disease in particular, and some other RP related diseases, the taking of Vitamin A supplements not only assists with the degeneration of the disease, it can cause other side effects. Consequently the recommendation by researchers was that no one should take Vitamin A unless specifically recommended by their ophthalmologist.

Prior to the Congress, I attended the Retina International Continuous Education Program. This was held on Thursday 24<sup>th</sup> June and was a day spent with various members sharing information about how their respective Retina organisations carried out their work. Examples of this included:

- how the South African organisation influenced genotyping in their country
- the way in which the Greek organisation shared information about AMD
- an explanation of the role of the Pakistan Foundation Fighting Blindness group
- a film produced in the UK, entitled “Living with RP”, and
- examples of assistive technology services for Italian members

It was very interesting to learn about other Retina organisations and to discuss the challenges faced in trying to support members, in spreading information about retinal dystrophies and in trying to raise money for continued research.

The Retina International General Assembly was held on Friday 25<sup>th</sup> June and was a very business-like meeting which endeavoured to draw all of the respective groups together so that united we could work on some of the challenges facing individual member organisations. The members at the General Assembly also discussed a new membership structure and eligibility for membership which would ensure a more equitable membership of Retina International.

The General Assembly was also an Annual General Meeting and therefore an election was held for positions within the Retina International Management Committee. Results of the election were as follows:

President - Christina Fasser (Switzerland)

Members of the Management Committee – Fraser Alexander (New Zealand), Stephen Jones (United Kingdom), Claudette Medefindt (South Africa), Caisa Ramshage (Sweden), and Maria Leopoldi (Brazil)

The strategic objectives and work plan for this Management Committee for the next two years were also discussed along with the budget. If anyone is interested in finding out more about the work of Retina International and its member organisations, they should visit the website, which is [www.retina-international.org](http://www.retina-international.org)

The 17<sup>th</sup> Retina International Congress will be held in Hamburg, Germany during July 2012 and the 18<sup>th</sup> will be held in Paris, France in 2014. Details of these Retina International Congresses will be distributed via the Achiever as soon as they become available, but if you are interested in attending, please do not hesitate to contact the office so that we can let you know any relevant information as soon as it comes into the office.

If you are interested in reading the Congress summary notes, or those relating to the General Assembly or the Continuous Education Program, please contact Lin at the office on 9650 5088, or by email at [support@retinavic.org.au](mailto:support@retinavic.org.au), and she will forward them to you.

## **Inherited Retinal Diseases Register Update**

Dr John De Roach, Principal Medical Physicist at Sir Charles Gairdner Hospital in Western Australia, has reported that the IRDR website now contains a current document indicating the number of DNA samples stored, their origin, and any genes containing disease causing mutations that they believe they have identified.

The document can be viewed on-line at:  
[www.scgh.health.wa.gov.au/Research/InheritedRetinal.html](http://www.scgh.health.wa.gov.au/Research/InheritedRetinal.html)

There are now more than 1300 DNA samples in the bank. More than 35% of these now originate from outside of Western Australia. The research team believes they are on track for 3000 samples by the end of the funding period, and they still have many expressions of interest to work through.

The DNA analysed hasn't shown a significant jump in this update, but they are working on about ten different diagnoses in parallel using whatever strategies are appropriate for each diagnosis, and it is expected that the numbers of disease causing mutations identified will jump sharply for the next one or two updates of the website, which is carried out around every three months.

### **MEMBERSHIP FEES REMINDER**

Membership renewal fees for 2010 – 2011 are now due.

If you have still not paid, please send in your completed membership renewal form along with your payment to the office at your earliest convenience.

Thank you.

# FEATURES

# Driving Blind

The National Federation of the Blind in Baltimore and Virginia Tech plan to demonstrate a prototype vehicle next year equipped with technology that helps a blind person drive a car independently. The technology, called "nonvisual interfaces," uses sensors to let a blind driver maneuver a car based on information transmitted to him about his surroundings: whether another car or object is nearby, in front of him or in a neighboring lane.

Advocates for the blind consider it a "moon shot," a goal similar to President John F. Kennedy's pledge to land a man on the moon. For many blind people, driving a car long has been considered impossible. But researchers hope the project could revolutionise mobility and challenge long-held assumptions about limitations.

The vehicle has its roots in Virginia Tech's 2007 entry into the DARPA Grand Challenge, a competition for driverless vehicles funded by the Defense Department's research arm. The university's team won third place for a self-driving vehicle that used sensors to perceive traffic, avoid crashing into other cars and objects and run like any other vehicle.

Following their success, Virginia Tech's team responded to a challenge from the National Federation of the Blind to help build a car that could be driven by a blind person. Virginia Tech first created a dune buggy as part of a feasibility study that used sensor lasers and cameras to act as the eyes of the vehicle. A vibrating vest was used to direct the driver to speed up, slow down or make turns.

The organisation for the blind was impressed by the results and urged the researchers to keep pushing. The results will be demonstrated next January on a modified Ford Escape sport utility vehicle at the Daytona International Speedway before the Rolex 24 race.

The latest vehicle will use non-visual interfaces to help a blind driver operate the car. One interface, called DriveGrip, uses gloves with vibrating motors on areas that cover the knuckles. The vibrations signal to the driver when and where to turn.

Another interface, called AirPix, is a tablet about half the size of a sheet of paper with multiple air holes, almost like those found on an air hockey game. Compressed air coming out of the device helps inform the driver of his or her surroundings, essentially creating a map of the objects around a vehicle. It would show whether there's another vehicle in a nearby lane or an obstruction in the road.

Dr. Dennis Hong, a mechanical engineering professor at Virginia Tech who leads the research, said the technology could someday help a blind driver operate a vehicle but could also be used on conventional vehicles to make them safer or on other

applications. Hong, who directs the school's Robotics and Mechanisms Laboratory, said they hope to turn the technology into a consumer product. But he added, "This is not going to be a product until its proven 100 percent safe."

Advocates for the blind say it will take time before society accepts the potential of blind drivers and that the safety of the technology will need to be proven through years of testing. But more than anything, they say it's part of a broader mission to change the way people perceive the blind.



*This photo taken in 2009, shows Addison Hugen, who is a blind student participating in the 2009 YouthSlam, a science camp for blind students, in College Park, Md. The National Federation of the Blind and Virginia Tech say they plan to demonstrate a prototype vehicle next year equipped with technology that would help a blind person drive a car. Called non-visual interface technology, it allows a blind person make driving decisions that let them to drive independently.*

Source: Ken Thomas, Associated Press Writer, 2 July 2010.

## AGM REMINDER

All members are encouraged to attend our **Annual General Meeting** to be held on **Saturday 9 October** at **1.30 pm** in the **Hayden Raysmith Meeting Room** on **4<sup>th</sup> Floor, Ross House, 247-251 Flinders Lane, Melbourne.**

By now you should have all received notice of the AGM which included the agenda, board nomination form, alteration to the statement of purposes and the rules of the association, and background information about the guest speakers.

We are fortunate to have three leading researchers lined up to attend who will be updating us on current research developments and who will be available to answer questions. They are:

- Professor Michael Kalloniatis, Director of the Centre for Eye Health
- Dr Erica Fletcher, senior lecturer at the University of Melbourne and leader of the Fletcher Visual Neuroscience Laboratory
- Dr Una Greferath, principal investigator in vision research in the Greferath Laboratory, Department of Anatomy and Cell Biology at the University of Melbourne.

Come along to get involved, get informed and catch up with fellow members!

# RESEARCH UPDATE

## RP Gene Therapy Study

Researchers at the University of Oklahoma Health Sciences Centre have found a way to use a radical new type of gene therapy to treat retinitis pigmentosa. The research, led by Muna Naash, Ph.D., with collaborators in Cleveland and Buffalo, discovered a way to deliver known gene therapies directly to the light-sensitive cells affected by this disease. The discovery already is being used to develop new treatments for another disease – macular degeneration.

Utilizing nanoparticle technology, scientists created a microscopic capsule capable of carrying genetic therapies to their destination inside cells of the retina. The tiny delivery vehicle is being tested with a variety of gene therapies in animal models with the potential of treating several diseases from bladder cancer to diabetes. The capsules have proven very effective, carrying therapies to the designated location in the eye within 15 minutes of delivery and spreading the genetic repair message quickly to nearby cells.

"I am thrilled about it. That's why we have been working so hard to get this as quickly as possible through the necessary experiments, so we can publish our findings and take it out to the patients," Naash said. Robert E. Leonard, M.D., an ophthalmologist at the Dean McGee Eye Institute, said "This is an incredible breakthrough in terms of being able to treat with gene therapy. Outside of gene therapy, we are at a loss to be able to treat these patients, so this is incredibly important research."

The study appears in the Journal of the Federation of American Societies for Experimental Biology (FASEB), and the research is supported by a grant from the National Eye Institute and the Foundation Fighting Blindness.

*Source: Press Release, The University of Oklahoma Health Sciences Center, 10 June 2010*

## Retina Created from Human Embryonic Stem Cells

Scientists at the University of California, Irvine (UCI) have created an eight-layer, early stage retina from human embryonic stem cells, the first three-dimensional tissue structure to be made from stem cells. It also marks the first step toward the development of transplant-ready retinas to treat eye disorders such as retinitis pigmentosa and macular degeneration.

In previous studies on spinal cord injury, study leader Hans Keirstead and his team originated a method by which human embryonic stem cells could be directed to become specific cell types, a process called differentiation. Results of those studies are leading to the world's first clinical trial using a stem cell-based therapy for acute spinal cord injury.

In this study, the Keirstead team utilized the differentiation technique to create the multiple cell types necessary for the retina. The greatest challenge, Keirstead said, was in the engineering. To mimic early stage retinal development, the researchers needed to build microscopic gradients for solutions in which to bathe the stem cells to initiate specific differentiation paths.

"Creating this complex tissue is a first for the stem cell field," Keirstead said. "Dr. Gabriel Nistor in our group addressed a really interesting scientific problem with an engineering solution, showing that gradients of solutions can create complex stem cell-based tissues."

The UCI researchers are testing the early-stage retinas in animal models to learn how much they improve vision. Positive results would lead to human clinical trials.

Source: UC Irvine TODAY, 26 May 2010.

## **Valproic Acid Shown to Help Reduce Vision Loss in Patients With RP**

Valproic acid, a drug which has shown promise for preserving vision in people affected by autosomal dominant forms of RP (adRP), is moving into a Foundation Fighting Blindness funded multi-centre clinical trial this Autumn. The three-year, 90-participant clinical study will be conducted at three sites — the University of Massachusetts Medical School (UMMS), the University of Utah, and the Retina Foundation of the Southwest — under the auspices of the National Eye Evaluation Research Network. The Foundation Fighting Blindness established the network to launch clinical trials of promising treatments and cures for retinal degenerative diseases. Valproic acid is the first treatment to be evaluated in the network.

In the July 20 online edition of the British Journal of Ophthalmology, Shalesh Kaushal, MD, PhD, chair of ophthalmology and associate professor of ophthalmology and cell biology at UMMS, and his team, describe a potential new therapeutic link between valproic acid and RP, which could have tremendous benefits for patients suffering from the disease. In a retrospective study, valproic acid, approved by the FDA to reduce seizures, treat migraines and manage bipolar disorder, appeared to have an effect in halting vision loss in patients with RP and in many cases resulted in an improved field of vision. Results from this study, in conjunction with prior in vitro data, suggest valproic acid may be an effective treatment for photoreceptor loss associated with RP.

The clinical trials will build upon Kaushal's work in the retrospective study in which patients were treated off-label with doses of valproic acid ranging from 500mg to 750mg per day over the course of two to six months. Treated at a time when patients normally experience rapid vision loss as a result of RP, five of the seven patients in the study experienced improvement in their field of vision.

Valproic acid appears to work by masking certain protein defects that can cause vision loss in some people with retinal degenerative diseases. Investigators also believe that the drug may have anti-oxidative and anti-inflammatory properties, which may help preserve vision, as well.

"Inflammation and cell death are key components of RP," said Kaushal. "It appears the valproic acid protects photoreceptor cells from this. If our observations can be further substantiated by randomized clinical trials then low dose valproic acid could have tremendous potential to help people suffering from RP."

Dr. Kaushal and colleagues, having previously demonstrated the use of the small molecule, retinoid, as a pharmacological agent capable of increasing the yield of properly folded RP rhodopsins, began screening other small molecules for similar attributes. Because of its already known qualities as a potent inhibitor of the inflammatory response pathway and cell death, valproic acid was believed to have a unique profile making it a potential candidate as a retinal disease treatment.

"Traditionally, moving a new scientific discovery from the bench to the patient requires a significant investment of time and resources," said Kaushal. "Repurposing drugs already approved by the FDA and which have been shown to be safe, such as valproic acid, is an economical and time-efficient way to quickly bring new treatments to patients."

"The Foundation Fighting Blindness is delighted to be moving Dr. Kaushal's outstanding work with valproic acid into our clinical trial network, because the drug has the potential to preserve vision for thousands of people affected by retinal diseases," said Steve Bramer, Ph.D., chief drug development officer, National Neurovision Research Institute, a clinical support arm of the Foundation Fighting Blindness. "It's an exciting research collaboration for us, because of the drug's potential, and the knowledge and expertise Dr. Kaushal and the University of Massachusetts Medical School bring to the clinical study."

While the clinical trial will be initially recruiting participants with adRP, the Foundation is currently funding preclinical studies of valproic acid for the treatment of other retinal diseases to see if the study may be expanded at a later date to include people with other forms of retinitis pigmentosa.

Dr. Bramer says that thorough clinical training and testing standardization will make certain that the trial delivers accurate results. "We are ensuring that all clinicians and staff are well-versed on the testing equipment, documentation requirements, and clinical protocols. This is a critical role for the Foundation," he says. "By having everyone well-informed and on the same page, we'll know with better certainty if the drug can preserve vision, and which people will benefit most from it."

Source: RPLIST, 21 July 2010 and Foundation Fighting Blindness website.

# Understanding Stem Cell Therapy

## PART ONE

*Over three editions of The Achiever, we will include a feature column on stem cell therapy. In this edition we look at what stem cells are and the various types, while the next two editions will include an overview of developments in stem cell therapy research over the past ten years.*

A stem cell is an unspecialised (progenitor) cell that can do one of two things. It can reproduce unlimited copies of itself, or it can differentiate into any of the nearly 220 cell types that make up the human body, such as a heart cell, a brain cell, or a spinal cord cell. Sources of stem cells found so far in the human body are:

cornea	bone marrow	peripheral blood
spinal cord blood	skin	hair

There are four types of stem cells:

**Embryonic stem cells** (pluripotent) stem cells are taken from embryos, which is ethically objectionable to many people. They have the ability to turn into any cell type, and they are young, powerful, and versatile. But, coming from a foreign source, they can provoke an immune response and be rejected by our bodies. The potential is great, but the embryonic cell's transformative power makes it difficult to control.

**Adult stem cells** found in various organs or tissues in the patient's own body, can be removed, cultured and then re-introduced, which solves the problems of rejection and ethics. Adult stem cells, however, are older and less powerful than the other types.

**Parthenogenic stem cells** come from unfertilised oocytes by way of a process called "Skint", or Somatic Cell Nuclear Transplant (SCNT). Oocytes are cells that become ovum if allowed to develop. They are, therefore, young, but if undeveloped, they are not embryonic. So again, the problems of ethics and rejection are solved.

The fourth type of stem cells is called **induced pluropotent**. Like most other cells in the human body, stem cells contain a nucleus which contains an individual's entire set of genes. We now know that gene expression patterns in any cell are not necessarily fixed, as we once thought. With insertion of only one to four genes, adult stem cells from the patient's own body can actually be transformed to their embryonic (pluripotent) state and then developed into any of the cell types in our bodies. Thus, the name "induced" pluripotent stem cells. These cells not only solve the rejection problem, but they are also young and powerful.

Besides direct transplantation, stem cells can also be used instead of patients, to study almost any disease, as well as for drug research and development. And this may lead to development of new drugs that can stimulate our bodies to repair themselves at the cellular level.

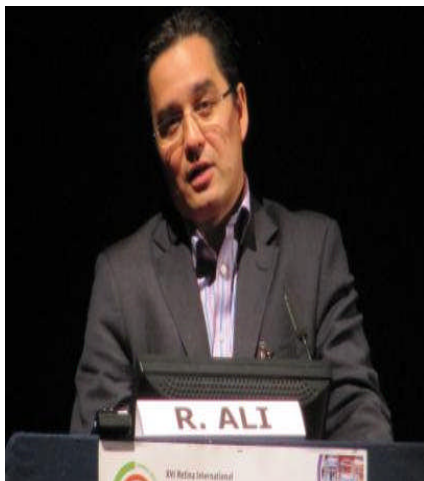
# Retina International World Congress Snippet

*At the beginning of this issue, Leighton reported on the 16<sup>th</sup> Retina International World Congress held in June in Stresa, Italy. Here we focus on just two of the many presentations given during the four day event – one from the research presentations and one from the continuing education program.*

## **Stem Cells and Cell Therapy – Robin Ali Professor, Institute of Ophthalmology, London**

Robin Ali commenced his talk by saying that although his laboratory was primarily interested in gene replacement, he realised that other treatments could work together with gene replacement to give a better outcome for patients. To this end he is working with stem cells alongside his other work.

He said that retinal repair by cell transplantation might provide generic treatment for retinal degeneration but it is early days yet. Prerequisites are identification of appropriate donor cells and successful incorporation of transplanted cells into the retina. Retinal repair is an evolutionarily limited phenomenon. In amphibians and fish the retina changes throughout life and can regenerate completely after damage, however in humans this is not the case.



Just a few of the points he mentioned in reference to stem cells were:

- it is possible to transplant photoreceptors into adult mouse retinas provided they are at a very specific stage of development
- we have clear evidence that cell transplantation is capable of improving vision in a mouse
- transplanted retinal stem cells are able to differentiate but not integrate
- to restore vision we need to improve the quality of the transplant process, altering the recipient retina and stimulating the migration
- current challenges include presence of the outer limiting membrane, or Gliosis

Robin concluded by stating that his team hopes to show proof of concept within the next year and then move forward with their experimentation after that. He said that he, and others, had made huge progress in the past ten years and he expected things to happen even more quickly in the future.

## ***Role of Pakistan Foundation Fighting Blindness (PFFB) in the Life of RP Patients – Saima Ammar, CEO PFFB***



***Saima Ammar***

Of the various points Saima presented, she made mention of their Audio World Program which focuses on providing educational information and entertainment through audio cassettes throughout Pakistan. To date 4000 students have benefited from this service which is provided free of charge. The complete curriculum from class V to Masters level has been recorded along with over 1000 titles covering all reading ranges from newspapers to religious books and important translations.

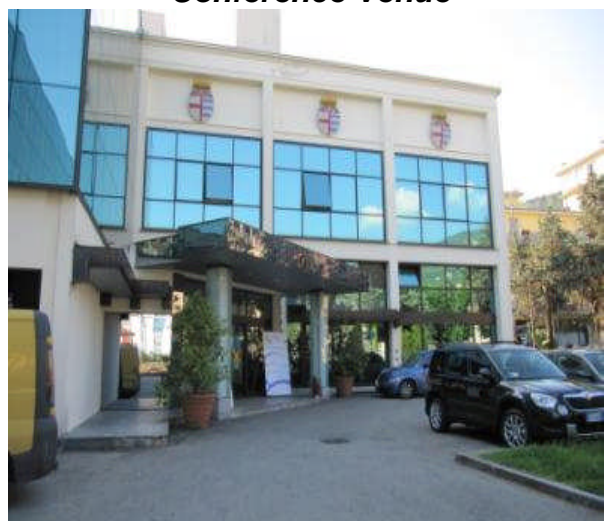
PFFB also has an IT Helpline Project and Accessible Internet Café. The main objective of these projects is to provide a place to the blind wherein they can interact with other blind persons in a relaxed environment and improve their IT skills. PFFB have found through their own initiatives that mastering computing skills helps empower the blind by opening up numerous educational and employment opportunities.

Saima also spoke about Darakhshan, which is a resource and training centre for women with disabilities based in Morgah, Rawalpindi. The aim of the centre is to assist women become productive and active members of society by providing training and living skills to women who would otherwise have lost their standing in the community due to their disability. Training and income generating skills, including adult literacy, are provided to disabled women from all four disability categories – visual impairment, speech and hearing impairment, physical impairment and mild mental disorders.

Saima stated that in Pakistan, most women with a disability belong to the poorest of the poor segment of the country, and are often shunned in the community, making programs like those provided by PFFB all the more important.

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### ***Conference Venue***



## STEM CELL THERAPY POSTSCRIPT

Stem cell therapy is being studied as a means for replacing damaged retinal cells. In fact, it was recently demonstrated that adult somatic (e.g., skin) cells can be persuaded (*in vitro*) to form stem cells that are capable of becoming cells of the eye. This remarkable finding raises the possibility of generating new tissue from mature cells of people who have retinal disease to serve as pluripotent cells that could be grafted into the eyes to take on characteristics of normal vision cells. Every year at the ARVO (Association for Research in Vision and Ophthalmology) annual meeting certain topics generate a buzz. Stem cell research and stem cell-based treatments received a lot of attention this year.

## Vision Australia's Further Education Bursaries

Each year Vision Australia awards financial bursaries to tertiary students who are blind or have low vision for the purchase of adaptive technology such as CCTVs, laptops, screen reading and magnification software. Vision Australia's Further Education Bursaries aims to assist clients who would not otherwise be able to afford adaptive technology, thus increasing their ability to participate in further education. Since 1996, 191 bursaries have been awarded by Vision Australia to students studying a broad range of disciplines - from Arts and Music to IT and Business.

### Who is eligible?

To be eligible, applicants need to:

- \* be an Australian citizen or permanent resident of Victoria, New South Wales, the Australian Capital Territory, Queensland, the Northern Territory or Tasmania.
- \* be (or become) a client of Vision Australia
- \* demonstrate the need for financial assistance to purchase adaptive technology
- \* be applying for, or enrolled in, a tertiary course graded Certificate IV or above
- \* be available to attend a presentation ceremony in May.

### How to apply?

To apply for a bursary, applicants need to:

- \* complete an application form - download available at [www.visionaustralia.org/bursary](http://www.visionaustralia.org/bursary)
  - \* have an adaptive technology assessment specifically for the bursary with a Vision Australia consultant
  - \* provide some documentary evidence (outlined on the application form).
- Applications are treated in the strictest confidence.

### Important dates:

Applications close at the **end of October**. Recipients are selected in December, equipment is purchased and delivered after proof of enrolment has been provided (around March) and the Bursaries are presented at ceremonies in May.

### Further information:

Contact Max Bini, Tertiary Education Consultant on 03 8378 1223.

# Question Time

## with Val Lawson

*In this edition, Val Lawson has kindly agreed to volunteer for Question Time.*



**1. What's your earliest memory?**

Shifting to Moe and when I lived at Nanna's and all my uncles were in army uniform.

**2. What's your idea of a good time?**

Going to the theatre and being with family.

**3. What's your ideal holiday destination?**

Merimbula.

**4. Who inspires you?**

My mum.

**5. What makes you angry?**

Bad manners.

**6. What's the hardest thing you've ever done?**

Losing our son.

**7. What's the best thing you've ever done?**

Having my family.

**8. What do you like about Retina Australia (Vic)?**

Sharing knowledge and ideas, and chat shows.

**9. If you could change one thing about the world, what would it be?**

Racism.

**10. What's the most important thing you've learnt about life?**

Yesterday is history.

### LAST WORD

When you come to the edge of all the light you know and are about to step off into the darkness of the unknown, faith is knowing one of two things will happen. There will be something solid to stand on, or you will be taught to fly.

ANONYMOUS

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