

**The Official Newsletter of the Queensland Branch  
of the Australian Institute of Medical Scientists**

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## **AIMS QLD Branch Committee Members 2017**

**Chair:** Anne-Marie Christensen

**Vice Chair:** Indu Singh

**Treasurer:** Christine Knauth

**Secretary:** Jacqueline Shaw

**Committee Member:** Deborah Orr (Chair, PaLs QLD)

**Committee Member:** Kathryn Eckersley

**Committee Member:** Yun-mi Nguy

**Committee Member:** Callum Bradshaw

**Committee Member:** Position Vacant

**Student Members:** Rebecca Geary & Position Vacant (QUT)

Ellen Palmer & Rebecca Ward (Griffith University)

**For all Branch enquiries, please contact:** [queenslandaims@gmail.com](mailto:queenslandaims@gmail.com)

## **Chair's Report**

Welcome to the *Queensland Analyser* end of year issue for 2017. It has been an even busier year than last year, hosting a combined two-day meeting in June with the QLD Pre-analytical & Laboratory Staff (PaLs) Group, 'Preventing Pre-analytical Errors' on the Gold Coast on top of our normal activities. With over 120 attendees from QLD, Australia and New Zealand, it was clear there is a demand and interest for CPD in this area, and we are working with the QLD PaLs Group to plan future events. On behalf of the Branch, I would again like to thank our sponsors, speakers, volunteers and committee members who made the meeting a success. Photos and a meeting review are on pages 4-7, as well as a reminder, all members can watch the recordings from the meeting by logging into their AIMS account, clicking E-Learning and the Video Presentations link.

For the rest of this issue, we look back and review our combined meeting with the Histotechnology Group of Queensland (HGQ) which this year had a theme of 'Skin', and was preceded by our 2017 Branch Annual Meeting and Chair's Branch Report to QLD Members. It was another great night, and I would like to extend our thanks to HGQ President Jerres Alcober and the Committee for their continuing support, we look forward to August 2018 and the audience-requested theme, 'Renal Pathology'. That said, we are always looking for ideas for events, themes or disorders you would like us to cover and would love to hear from you (and our Student and PaLs members), so please send your suggestions to us.

This issue for our regular '5 minutes with' feature we introduce you to Professor Allan Cripps. Allan has been an AIMS member for more than 40 years and is closely involved with the Fellowship program (Immunology). We also thank Griffith University final year BMLS student, Ellen Palmer, for preparing our thalassaemia case study on pages 15-16, and encourage all other members (again, including our Student and PaLs members) to get involved and contribute by sending us case studies. We are happy to include more than one each issue if multiple come in. That brings us to an end for this newsletter though, so please enjoy the read and best wishes for 2018 from us all!

Anne-Marie Christensen

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## Queensland Branch Events Update

### **'Preventing Pre-analytical Errors' – June 24 & 25 2017, Gold Coast**



#### **Dr Indu Singh, QLD Branch Vice Chair and Meeting Co-Chair**

The Australian Institute of Medical Scientists (AIMS) and Preanalytical Laboratory Staff (PaLs) Queensland held a combined state scientific meeting on 24<sup>th</sup> and 25<sup>th</sup> June 2017. The scientific meeting with the theme "Preventing Preanalytical Errors" was hosted by Griffith University in modern state of the art health building G40 across the road from Gold Coast University Hospital on Gold Coast. The meeting over two days saw 25 speakers from across the Australia and New Zealand share their experiences and expert opinions exploring a range of topics and disciplines relevant to all pathology staff and students studying to enter the field with over 120 delegates.

The Saturday night dinner at "Mantra on View Hotel" was a highlight with live music and delegates socialising, networking and dancing away. Congratulations to the organising committee and student volunteers. The Queensland committees of both AIMS and PaLs would like to thank Ms Suzette Gordon and Mr Ekrem Ozturk from AIMS and in particular, Ms Caroline Carstens and Mr Richard Smith from Griffith University for their amazing organisational and administrative support. The committee would also like to thank the sponsors Griffith University: School of Medical Science and Menzies Health Institute Queensland, Becton Dickinson, Grifols, Sarstedt and Interpath Services. The meeting was a great success!

## 'Preventing Preanalytical Errors' – June 24 & 25 2017, Gold Coast



### **Deborah Orr, QLD PaLs Chair and Meeting Co-Chair**

The 24<sup>th</sup> and 25<sup>th</sup> of June at Griffith University was an exceptional weekend for those attending the Preventing Pre-analytical Errors combined Qld AIMS and PaLs Scientific Meeting. The full and varied programme delivered a range of phlebotomy and pre-analytical topics that informed and broadened the knowledge of delegates. This scientific meeting offered an opportunity for pre-analytical staff to participate in professional development that is so often lacking at a National level. From the feedback that I have received there is a very real desire for knowledge by pre-analytical staff and ongoing education. The following comments were made by a 'first time' conference attendee Daniel Pritchard.

*"There were many interesting topics of discussion but for me I found the presentation by Dr Danny de Lore and the fact that 2 out of 3 positive blood culture results were actually false, quite shocking. In my past training the focus was always on how to do a procedure a certain way, but less attention was given to **why** we did it. I hadn't looked at the broader picture and what a false positive result actually meant for the patient. I also really enjoyed the presentation by Debbie Gercovich and Jo Northfield on successful heel and finger pricks. I am personally a bit daunted and stressed when it comes to paediatric collections particularly with an uncooperative child. Sometimes it feels like an impossible task but to see how a successful collection can be performed under pressure it has given me something to strive for as I continue to hone my own collection techniques".*

## **'Preventing Preanalytical Errors' – June 24 & 25 2017, Gold Coast**

Knowing 'why' we are required to follow processes and procedures and knowing the consequences of not following established guidelines is so important. As a Specimen Collection Supervisor, I have heard my share of horror stories about errors that were made by pre-analytical staff because they did not know the implications of their actions. We rely on our collectors, who often work independently, to know for example that tipping two half-filled sodium citrate tubes together to make up the correct volume in one tube can result in a catastrophic outcome for the patient. This collector had been doing this for years apparently; she obviously had no understanding of how coagulation studies were analysed. Robyn Coleman, the AIMS Travelling Orator, explained during the Conference the peculiarities of this liquid anticoagulant and how variables can dramatically influence the results of coagulation studies. CSR topics included presentations from a couple of our NZ colleagues who explained how automation has improved their CSR TATs and reduced aliquoting errors. Angela Coriat, Supervising Scientist CSR at RBWH heads a team of over 50 staff; she shared with us how she effectively manages her staff using a fresh approach to performance reviews, her methods of managing her team have resulted in dramatic improvements in absenteeism, workload output and team morale.



## 'Preventing Preanalytical Errors' – June 24 & 25 2017, Gold Coast



I received the following feedback from **Ailsa Bunker**: Charge Scientist, Patient & Specimen Services, Middlemore Hospital, New Zealand.

*"I was privileged to attend the AIMS and PaLs Queensland Conference at Griffith University, Gold Coast as a speaker and attendee. The main theme of the event was Preventing Pre-Analytical Errors. As a Charge Scientist of Patient and Specimen Services this was completely in my area of interest. The topics for the plenary, and both the AIMS and PaLs breakout sessions were all relevant and interesting. It was difficult to choose which sessions to attend. In the end I attended the PaLs sessions which I found thoroughly professional. I gained lots of good ideas to take back to my laboratory and meet some wonderful people. The conference was so enjoyable I would recommend it to anyone to attend. Congratulations and thank you to the organisers for doing such a fine job."*

Recent studies confirm that pre-analytical errors account for up to 68% of laboratory errors and ongoing education for pre-analytical staff is an important positive step to reducing these errors. The Qld Branch of AIMS and PaLs recognises that reducing errors in the pre-analytical phase of Pathology is paramount to successful patient outcomes. The organising committee, speakers, sponsors, delegates and employers who supported their staff to attend the conference deserve acknowledgement and congratulations on a very successful, informative and inspiring inaugural PPE Conference.



## AIMS & HGQ Combined Scientific Meeting Tuesday 29 August



### **Anne-Marie Christensen, QLD AIMS Branch Chair**

At the end of August, we gathered with the Histotechnology Group of Queensland (HGQ) for our Annual Combined Meeting with the theme of 'SKIN'. Our first speaker, Dr Sara Sim (SNP) gave a talk titled 'The Brown Spot' and reminded us not all spots are melanocytic and reviewed the wide-range of differential diagnoses considered. We also discussed the ABCDEs of detecting melanomas and problematic nature of reaching a correct diagnosis. Dr Sim finished up by reminding us we are not the only species at risk of skin cancer, and that fish, pigs, dogs, cows, elephants, even hippopotami (and more....) get melanoma too! Next, Dr Megan Ollington (PAH) spoke on 'Cutaneous Manifestations of Haematological Disorders', focusing the on clinical presentation of specific (Leukaemia Cutis) and non-specific lesions in disease (Sweet's Syndrome, Pyoderma Gangrenosum), cutaneous NHLs (Mycosis Fungoides, Sezary Syndrome), plasma cell and dysproteinaemias (Cryoglobulinaemia, Amyloidosis), and finally in coagulation (Anti-Phospholipid Syndrome). Our final speaker for the night, Dr Christine Percy (QUT) spoke about 'Radiation-Induced Dermatitis' (RID) and some other nastier side effects of radiation therapy and new approaches to therapy. RID is an inflammatory, at times painful, process characterised by four stages: erythema, dry followed by moist desquamation, ending in necrosis and ulceration; it may be mild to severe and has complex mechanisms of injury and DNA damage, involving proinflammatory cytokines, chemokines and more. Our thanks to all speakers and Sponsor Leica. We look forward to 2018!!

## **General News Update**

### **“The EPA Just Approved Lab-Grown Mosquitoes to Fight Disease”**

The US Environmental Protection Agency and company MosquitoMate have announced their plans in *Nature* to release laboratory-raised mosquitoes into the wild of 20 US states in a new strategy to tackle problematic insect species. The mosquitoes are infected with the bacterium *Wolbachia pipientis* which will be passed on to wild insects, eradicating common vectors of dengue virus, Zika virus and yellow fever.

Read the full story here:

<https://www.gizmodo.com.au/2017/11/the-epa-just-approved-lab-grown-mosquitoes-to-fight-disease/> and read the *Nature* article here:

<http://www.nature.com/news/us-government-approves-killer-mosquitoes-to-fight-disease-1.22959>



### **“7-Year-Old Boy with Incurable Condition Has 80% of His Skin Genetically Modified”**

This story out of Europe tells of a notable success for the field of gene therapy. Researchers in Modena, Italy and surgeons in Bochum, Germany joined forces to complete a new treatment for a patient suffering from the skin disease epidermolysis bullosa. After the 7-year old lost up to 60% of his epidermis as a result of the rare condition, researchers genetically engineered the boy's own stem cells to grow sheets of new epidermis for life-saving skin grafts.

Check out the story here:

<https://www.npr.org/2017/11/08/562647401/genetically-altered-skin-saves-a-boy-dying-of-a-rare-disease> and read the *Nature* article here:

<https://www.nature.com/articles/nature24487>

## **Upcoming Events in 2018**

### **March/April**

- Check online for a new meeting in the pre-analytical space. Details and venue will be confirmed in the new year.

### **May/June**

- Watch-out for the mid-year edition of the *Queensland Analyser*! If you have any suggestions or would like to contribute contact us, we would love to hear from you!

### **August**

- Pencil in the AIMS Branch Annual Meeting and Combined HGQ Event (Renal Pathology) for Wednesday 29 August (TBC). More information and our speaker list as things get closer.

### **September 2018**

- AACB AIMS 2018 National Scientific Meeting, Sydney International Convention Centre, 2-5 September. [Click here](#) for more information and updates.

### **November 2018**

- Don't forget to get your lab quiz team together in time for the AIMS AACB Annual Quiz on Tuesday 28 November 2018. More next year!

For more information on other AIMS events check...

<http://www.aims.org.au/services/related-meetings-webinars>



## 5 minutes with... Professor Allan Cripps

In this issue, we are pleased to introduce you to Professor Allan Cripps. Allan has been an active AIMS member for over 40 years and prepares the exams for the AIMS Fellowship in Immunology.



### 1. Where do you work?

Research Professor, School of Medicine, Griffith University and Board Member, GCHHS, Queensland Health.

### 2. What future development/s in the industry are you excited about?

The use of big data to create diagnostic algorithms.

### 3. What do you like about your current position?

After 20 years of working in senior administrative and executive roles I can finally have some time to think about and conduct research in the discipline of immunology that is translational for better health outcomes.

### 4. What makes you smile?

Creating data that adds value to understanding mechanisms of disease and treatment options AND relaxing (camping and hiking) in the Australian country side (bush country).

### 5. What has been your favourite holiday?

Skiing the slopes of NZ. Unfortunately, due to declining joint health my last skiing holiday will be my last, but it was my favourite and the memories will have to suffice moving forward.

## Note on Student Membership Application Forms

The one-page form is currently for full-time students only and has to be signed by the Course Coordinator or an officer of the university. The two-page membership form is for all other applicants. Both are available at <http://www.aims.org.au/membershipinformation/join>

## History of AIMS

Written by Ian Stanger, Bruce Munro, Jim Ruxton, Emeritus Professor Tony Webber, Tom Bell and Len Lawler. The book is [available for purchase](#) in the online store and gives a detailed and rich recount of the history of AIMS over 100 years. AIMS members also have access to the [electronic version](#), and it can be accessed and read in the Members Centre of the AIMS website.



The **APACE (Australasian Professional Acknowledgement of Continuing Education)** scheme is a voluntary programme that recognises continuing education, formal courses and a wide range of professional activities which contribute to your professional growth.

The healthcare industry is undergoing rapid change. We are expected to keep our knowledge and skills up to date to enable us to perform to the highest professional standard. The **APACE** scheme provides a method by which your professional activities are recognised.

**APACE** has been approved by the **New Zealand Medical Laboratory Science Board** as a re-certification programme for **New Zealand Medical Laboratory Scientists**.

**APACE** has been approved by the **Royal College of Pathologists Australia (RCPA)** as a continuing professional development recognition programme for Fellows of the Faculty of Science.

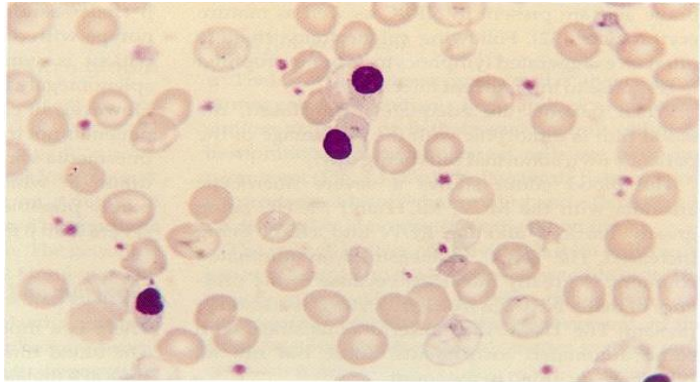
For more information and to enrol visit <http://www.aims.org.au/apace>

## **Case Study by Ellen Palmer: Beta thalassaemia major**

### **Clinical History:**

A two-year-old female is brought into the clinic showing symptoms of severe anaemia (pale, fatigue), hepatosplenomegaly, dark urine and failure to thrive. Both parents have a known history of asymptomatic thalassaemia. The child's older brother had no history of similar symptoms. The family is of PNG descent. Further investigation was requested;

### **Lab Results:**

FBE	Low haemoglobin, low RCC, low haematocrit, high RDW, PLT normal, WBC normal
Blood Film	Microcytic, hypochromic, poikilocytosis, polychromasia, marked target cells, basophilic stippling and pappenheimer bodies. WBC and PLT normal in count and morphology. 
Molecular/Genetic	Mutation in two HBB genes on chromosome 11.
Haemoglobin Electrophoresis	Increase in HbA <sub>2</sub> HbF >90%
Iron studies	Stores increased
Urine analysis	High concentration of bilirubin in urine

### **Discussion:**

Beta thalassaemia major is a homozygous genetic blood disorder which causes a defect in the synthesis of beta globin, resulting in severe disease. Chromosome 11 (responsible for production of beta globin) is affected by point mutations or mutations in intergene controlling sites which decrease mRNA leading to decreased globin chain production. There is partial to no production of beta globin chains, leading to reduced/absent HbA with compensation with increased HbA<sub>2</sub> and HbF.

At conception, this child had a 25% chance of both HBB genes being affected; 50% chance of being an asymptomatic carrier with only one HBB gene affected; 25% chance of being unaffected and not a carrier with no HBB genes affected.

An FBE shows decreased red blood cell parameters and a high RDW. Iron studies shows the stores to be increased, due to the release of iron during the haemolytic process. Iron is not excreted and therefore will continue to build up in the body. This can lead to side effects such as liver disease, diabetes and heart failure. In the blood film, the red blood cells show microcytic, hypochromic, poikilocytosis, polychromasia (reticulocytosis), marked target cells, basophilic stippling and pappenheimer bodies; consistent with beta thalassaemia.

The dark urine was found to be due to the high presence of bilirubin. The bilirubin is from the broken down red blood cells from haemolysis. Haemolysis leads to a decrease in haemoglobin; the iron containing protein in red blood cells. A decrease in haemoglobin leads to decreased oxygen carrying capability which in turn contributes to the symptoms consistent with anaemia; pallor, SOB, chest pain, easily fatigued, rapid heart rate, dark urine, jaundice, hepatomegaly, splenomegaly, dizziness.

### **Conclusion:**

The parents of the child should have been tested prior to starting a family to identify firstly; if they were carriers, and secondly; the risks of passing on their thalassaemia trait. The older brother is either not affected or is an asymptomatic carrier. The young female is affected by the disease, and will become dependent on blood transfusions for the rest of her life. There is currently no cure, only treatment for the symptoms. Deferoxamine is a medication which can be given to assist in the removal of excess iron from the blood (a result of the haemolysis) by binding to the iron and being excreted by the kidneys.

### **References:**

Pooja Advani (08-11-2016), *Beta Thalassaemia*. Retrieved from:

<https://emedicine.medscape.com/article/206490-overview#a7>

Center's for Disease Control and Prevention (05-24-2016), *Facts About Thalassaemia*. Retrieved from:

<https://www.cdc.gov/ncbddd/thalassaemia/facts.html>

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tea/lunch room for others to enjoy!**



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future editions? Let us know...**  
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