



Australian Society
for Microbiology Inc.
Queensland Branch
Newsletter February 2008



From the Editor

HAPPY 2009 to all ASMQ members on the electronic mailing list! Welcome to the first newsletter of 2009. I hope that all members has started the year sufficiently relaxed and recharged for another exciting year of microbiology! YEAH!

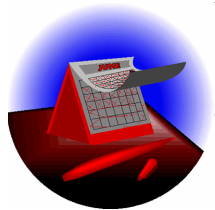
In this newsletter there is the Chair's report, information on the all important Becton Dickinson (BD) Student Award, the Visiting Speaker's Program (VSP), and so much more!

Please advise me if this electronic version of the newsletter is not making it to your fellow ASMQ members, and also remember that a copy of this newsletter can be found on the ASMQ website.

I hope you enjoy this newsletter and I welcome any feedback and/or suggestions for any upcoming issues.

I hope to see you at the BD Student Award to encourage and supporting new microbiology talents.

Cheers,
Yu Pei.
asmqld@gmail.com



Dates for the Diary

Clinical Microbiology SIG speaker: Dr Tony Badrick
Wednesday 18th February (see inside for details
– apologies for late notice)

Becton Dickinson Student Award
Abstracts due: 26th February
Finalists announced: 5th March
Award Night: 18th March

Microbiology conferences: www.theasm.com.au/meetings



Report from the Chair

Welcome to ASMQ 2009! This year will be another exciting year for the branch and of course an exciting year for the whole society as we turn 50. There will be many activities and opportunities to celebrate so look out for these events.

The first big event on the ASMQ calendar is the Becton-Dickenson Student Award night. This evening highlights the tremendous talent that we have within the branch and I encourage you to come along and support our future leaders of microbiology.

ASMQ will also sponsor the Clinical Microbiology SIG meeting this month. Dr Tony Badrick from Sullivan and Nicolaidis Pathology will be discussing the issues affecting the medical science workforce. With some major changes planned, this will make an impact on this very important branch of the society I look forward to receiving good feedback outcomes from the SIG meeting.

As always this year the branch aims to provide great scientific meetings, networking opportunities and fun for our members, but what would you like to see from the branch? If you have a good idea let us know. On that note I wish everyone a great 2009 and look forward to seeing you at the next event.

Sandra



BD Student Awards

Call for abstracts

Are you an Australian Society for Microbiology student member???

Want to go to the Golden Jubilee ASM Conference in Perth for **free**???

Submit a 250 word abstract on your latest microbiology research for judging and win the chance to present your research in Perth.

Abstracts due by: **26th February 2009**

Send to: thea.king@csiro.au

Finalists Announced: **5th March 2009**

Proudly sponsored by:



Becton Dickinson Student Award Rules of Entry

Background:

This is a Student Travel Award sponsored by BD. This award is available to provide the opportunity for one financial Student Member representing each ASM State Branch to attend and give a 15 minute oral presentation at the ASM 2009 Perth Annual Scientific Meeting (6 - 10 July 2009). Each award consists of a return economy airfare, full conference registration plus an allowance to offset any accommodation expenses.

Rules of Entry:

Student must be a current financial member of The Australian Society for Microbiology.

Abstract must be generated from their own research.

The 3 finalists must present a 15 minute oral presentation in front of state branch judges.

Winner will be announced on the night (Wednesday 18th March, 2009)

Student must be able to attend the 2009 ASM Conference in Perth, 6 – 10th July to present their winning presentation.

Details:

Submit no more than 250 word abstract to thea.king@csiro.au by 26th February 2009. Please title email: BD award abstract submission

Three finalists will be announced on 5th March 2009.

Three finalists will be required to present their work at the BD Awards Night (Wednesday 18th March at The University of Queensland).

Please ensure all contact details are correct and up to date.

Visiting Speaker's Program (VSP) Call for Nominations

What is the VSP?

The VSP has been an important feature of ASM for a number of years. It is a program that sees the society, at a National level, provide funds to assist high profile speakers, either international or national, to travel to various states to meet Branch members and present Seminars.

ASM will sponsor the visit of national and international speakers (microbiologists working either in Australia or overseas who are recognised authorities in their field) under two categories:

- a) ASM International Visiting Speaker Program, which entails speakers coming from overseas to participate in and speak at the National ASM Annual Conference for that year. The international speaker will be encouraged to visit several State branches. Broad Areas of Interests (e.g. influenza, bioterrorism, bacterial pathogenesis) will be accepted as nomination instead of/in addition to a specific speaker to estimate the level of interest in a particular topic from each State Branch. The speakers will be funded by ASM to visit a limited number of cities from which ASM members have expressed interest in that speaker. These visits need to occur as part of a single visit/trip organised through the National Office in consultation with the State Branch VSP Committee Members.
- b) ASM Australia-Oceania National Visiting Speaker Program, for which eminent microbiologists working in Australia/NZ will be sponsored for multi-city visits throughout Australia each year to meet and speak at State Branch-nominated events. These speakers will be funded by ASM to visit as many cities as possible, although these visits do not need to occur in a single trip.

Visiting Speaker's Program (VSP) Call for Nominations

The selection of candidates for both the programs a) and b) will be made once or twice a year by the ASM VSP Committee. ASM VSP Committee Members will receive nominations from ASM members of their State branch throughout the year.

Nominations for potential speakers and Broad Areas of Interest are now being sought from ASMQ.

For potential speakers, please include the area of expertise of the nominated speaker, their current and previous positions, and a list of career highlights, including publications and awards in the nomination. Initial ASMQ nominations under the b) category are: Barry Marshall (Uni of WA; *Helicobacter pylori*), Ian Frazer (UQ; Cervical cancer vaccine), and Susan Turner (Auckland University; Microbial ecology). Broad Areas of Interest nominations for a) category are: bacterial pathogenicity and HIV.

Finally, if any ASMQ members are hosting an international speaker in the coming year, please contact **Dr Glen Ulett** (g.ulett@griffith.edu.au ; ASMQ's representative on the VSP Committee) so that sponsorship can be gained from National Office to allow other speaking engagements throughout regional areas and interstate, if the visiting speaker is able to do so.

Member's Accolades

Sandra Hall – AWA Queensland Young Water Professional 2008

Our very own Chair was recently awarded as the Australian Water Association (AWA) Qld Young Water Professional of 2008. AWA is a not-for-profit organisation widely recognised for its independence and expertise in the area of sustainable water management. This award came with a nifty trophy. Just ask Sandra about it the next time you see her 😊

Do you know of a microbiologist who has been recognised for their outstanding work? Do you wish to share the good news with the rest of ASMQ? Then just send an email to asmqld@gmail.com and it'll be included in the next exciting edition of ASMQ Newsletter!

Clinical Microbiology SIG Program of Abstracts

These abstracts are from presenters at past Clinical Microbiology SIG meetings, and have also been published in the Queensland Branch SIG Newsletter. They are also published in the ASMQ Newsletter for the interest of all members. If you wish to be included in the SIG's email list, please contact Jacqui Schooneveldt (jacqueline_schooneveldt@health.qld.gov.au).

21st May

Casey Palmer – Are you feeling itchy? Delusional Paratosis

Many of us have had itching or tingling skin of an unknown origin, for varying lengths of time, on many occasions throughout our lives. For most people, we scratch a bit and then forget about it. Some people however (for a variety of reasons) may focus on these sensations, causing the itching and tingling to continue long after it should have disappeared. They then may come to the conclusion that their persistent itching must be due to a parasitic infestation. These people have a syndrome known as Delusions of Parasitosis.

It can be a debilitating condition as the patient tries to rid themselves and their surroundings of these supposed parasites. Samples sent in for pathology tests will always be negative as these samples usually just contain pieces of clothing lint, pieces of skin or even small non-parasitic insects. They will often seek help from numerous doctors and pest exterminators but none will be able to provide acceptable results from the patients point of view. This may lead the patient to take drastic measures, from using harsh chemicals on their skin such as insecticides to burning bedding or furniture in order to destroy the parasites. Scientists need to be aware of this syndrome as they will be the ones asked to identify the supposed parasites that these patients often collect. These patients require compassion and patience as it can often be difficult to convince them to seek treatment from a psychiatrist rather than a parasitologist.

Tamara Harris – Chromogenic media trial for urinary tract pathogen

Recently, our laboratory has introduced a range of chromogenic agars that have proven to be a success. In light of this, we decided to trial a chromogenic media for the urine bench. We used BioMerieux CPS agar as it was most readily available to us. We hoped the new media might save time and resources, reduce training time and effort, and decrease turn-around time when reporting on specimens, particularly indole-negative and non-lactose fermenting *E. coli* and mixed specimens.

We found a minor cost saving would occur if the new media was introduced, when comparing cost of the new media to savings in resources and labour. This saving, however, would prove more significant in a low volume laboratory. The CPS agar showed a definitive identification was available for *E. coli*, however this is already achievable with the current media used. The CPS media grouped other organisms based on their colour, however further identification was required. Additionally, there were some questions raised in terms of the colour consistency of some species, such as *Serratia marcescens* and *Streptococcus pyogenes* [Group A]. We felt that the outcome of the trial was dependent upon the variation in samples received on the day of the trial, as well as the person reading the urine bench plates. This may have affected the outcome of the trial, and further investigation is required.

Clinical Microbiology SIG

Program of Abstracts

21st May

Ronald Songcuan – Cryptococcal meningitis in AIDS patient

Cryptococcosis is the most common life-threatening AIDS related fungal infection. About 5 to 10% of people with AIDS develop cryptococcosis, with two thirds of them developing cryptococcal meningitis. *Cryptococcus neoformans* is the causative agent which commonly causes opportunistic infection in immunocompromised patients, especially in patients with AIDS. Pigeons serve as the chief vector for distribution and maintenance. Cryptococcal antigen can be detected in the serum of patients with AIDS in nearly 100% of cases. Presentation of cryptococcosis may be indolent and non-specific, with symptoms like headache, fever, nausea and vomiting. Rigidity in the neck, photophobia, cough and altered mental status are also observed. A definitive diagnosis requires isolation of *C. neoformans* from serum or sterile body fluids such as cerebrospinal fluid (CSF). This specimen needs to be processed immediately because the patient may die or suffer severe consequences if delayed. Fungal cultures may be taken also from other specimens such as urine, blood or sputum. Studies show that cryptococcosis decreased as a cause of death among AIDS patients due to improved antifungal treatment and prophylaxis.

20th August

Sally Biga – Doctor, there's a work in my eye!

Filariasis is a disease in which nematodes inhabit various regions of the human body. Filarial nematodes include the lymphatic filaria consisting of *Wuchereria bancrofti*, *Brugia malayi*, and *Brugia timori*; *Mansonella* sp.; *Onchocerca volvulus*; and *Loa loa* – the “African eye worm”.

Filariasis is estimated to affect up to 130 million people worldwide, and also has a dramatic impact on social and economic situations. *Loa loa* is thought to be present in 12-13 million of those affected by filariasis, and is generally confined to the endemic areas of West and Central Africa.

Loa loa may not produce many symptoms, however will often cause Calabar swellings. The migration of the adult worm across the sub-conjunctiva can be seen by the patient, and is generally the most concerning sign for the person involved. More serious features of the infection may exist such as fibrosis from dead adult worms, along with severe side effects to anti-filarial medication.

A case of *Loa loa* was reported at the Mater earlier this year in the blood film of a refugee from the Congo with no specific symptoms of filariasis. Identification of the microfilariae in the blood was performed by the Microbiology department. Differentiation of *Loa loa* from other microfilariae found in the blood used characteristics including the presence of a sheath and continuous nuclei in the tip of the tail. Serology testing for filariasis is often unreliable as cross-reactions frequently occur with other helminthic infections.

Colleen Hulett – When is a green yeast not really a green yeast?

This presentation outlined the isolation of a black yeast from the finger tissue culture of a rheumatoid arthritis patient. The yeast became apparent at day 3 of the culture at first appearing olivaceous in colour. *Exophiala* species was suspected and supported by slide culture identification techniques and the definitive identification (*Exophiala spinifera*) performed by Dr. David Ellis' laboratory in Adelaide and supported by DNA sequencing analysis.

The properties of the *Exophiala* species were discussed and an outline of other significant dematiaceous fungi of the order Chaetothyriales given. The black yeasts will begin as a mucoid yeast like colony and develop mycelial tufts with age. The microscopic features of these organisms can be variable which renders accurate identification difficult. There is also variability in the naming of these dematiaceous fungi where several designations may be used for the one isolate. Infection usually occurs via inoculation from the environment and infection can occur in both the healthy and immunocompromised host. Antifungal therapy can be used to treat these fungi however surgical debridement is usually necessary.

Clinical Microbiology SIG

Program of Abstracts

20th August

Julie Jordan – Spiderman

Our case, which we called Mr. Spiderman, was a 40yo male who presented to emergency on 3 occasions with a painful neck lump. There was no evidence of a puncture wound to the neck. The lump was drained and the pus sent for culture and cytology. Cytology confirmed the mass to be infective rather than malignant. The gram stain showed numerous leucocytes but no organisms were seen. Cultures grew a heavy growth of *Actinomyces sp* and *Fusobacterium varium*.

How did Mr. Spiderman get his neck abscess?

A couple of days prior to initially presenting at emergency, Mr. Spiderman pursued a dare to swallow a live spider, alleged to be the Australian White-Tailed spider. When Mr. Spiderman ate the spider, the spider may have punctured or scratched the protective mucosal membrane of the throat and infection may have occurred from endogenous mouth flora which includes *Actinomyces sp*. Alternatively, *Actinomyces sp* could have been introduced to the damaged tissue by the spider itself. A study performed with 100 household spiders found that their micro flora consisted of a large range of bacteria with *Actinomyces sp* being isolated from 25% of the spiders collected.

On culture the *Actinomyces sp* grew as a tiny alpha haemolytic colony with no aerial hyphae. It was a strict anaerobe. The gram showed branching GPB and the Modified ZN was negative. Catalase and indole were negative. The Vitek ANI gave a profile number of 4400061021 with an identification of 99% *Actinomyces odontolyticus*. The isolate was referred to Westmead Reference Laboratory for biochemical analysis and 16SrRNA. The organism was identified as *Actinomyces meyeri*.

The *Fusobacterium sp* grew anaerobically after 48hrs as a tiny white colony. The gram stain showed long fine GNBS. It was indole negative. The Vitek ANI profile number was 0000070000 which gave an identification of 99% *Fusobacterium varium*. Bites from the White-Tailed spider have been reported to be associated with erythema, swelling, severe pain, intense itching and necrotic ulcers known as necrotising arachnidism.

Despite extensive research, pathogenesis of necrotising arachnidism is unclear. A number of enzymes have been found in certain spider venoms which have proven to produce these lesions. Venom researchers have shown that the White-Tailed spider's venom contains: hyaluronidase - a spreading factor for the venom; proteolytic enzymes - which digest extracellular matrix proteins; and sphingomyelinase in abdominal extracts (including gastric juices) - proven to cause dermonecrotic lesions.

If bitten by a White-Tailed spider and the bite progresses to an ulcerative lesion or nausea and vomiting develops, seek medical care so that appropriate treatment can be delivered. Depending on the severity of the reaction antibiotics, oxygen therapy or surgical skin grafts may be required.

Are you FASM Material?

Advantages and benefits of becoming a Fellow of the Australian Society for Microbiology (FASM)

Fellow (FASM) is the highest level of professional membership of the Australian Society for Microbiology. Similar to the level of Fellow in other professional societies, ASM Fellows are recognized as representing a significantly high level of scientific and professional achievement within the profession of microbiology.

It should be the aspiration of all MASMs to apply for fellowship as part of their continuing professional status in microbiology. This is particularly true for the pathway involving FASM by examination but it is also true for the pathway involving the preparation of a scholarly dissertation.

In some states, FASM is regarded as being equivalent to a PhD for the purpose of promotion in the hospital setting. The qualification of FASM has been written into several enterprise agreements as a performance / qualification criteria.

The FASM in Clinical/Medical Microbiology is also recognised in legislation for the purposes of supervision of medical testing laboratories.

In Universities, the attainment of FASM provides recognition of status and achievement in the discipline and should contribute to career progression/promotion.

FASMs are highly regarded on state and national government committees and also on University and similar accreditation and advisory committees.

By serving as role models and mentoring early career microbiologists, FASMs have the opportunity to contribute to the future of Australian microbiology.

Please go to the ASM website for further information and/or contact the FASM advisor for Queensland; Patricia Desmarchelier
(Patricia.Desmarchelier@foodscience.afisc.csiro.au).

Are you FASM Material?

THE FELLOWSHIP ROAD MAP

Candidates for FASM, must be a MASM and have at least 10 years experience. The award of FASM is subject to a transparent and consistent examination process. This process is divided into 3 parts as per below.

Candidate submits application form and supporting documentation (preferably in electronic form) to the National Examinations Board (NEB)

NEB meets to discuss the application and decides whether an exemption from Part I &/or II is available for the candidate

PART
I

Requirements: General examination in microbiology, comprising both written and practical tests.
Exemptions: Usually granted to candidates with higher degrees in microbiology (MSc, MD, PhD), including coursework higher degrees

PART
II

Requirements: Examination comprising 3 essay style questions to be sat in a supervised setting. Examines expertise in a specialist area of microbiology (e.g. Medical Virology) and assumes an understanding in at least one related area of microbiology (e.g. Serology)
Exemptions: Usually granted to candidates holding *research* higher degrees in microbiology. The higher degree must comprise more than 18 months full time study. The research component of the higher degree examination should be more than 67% of the total marks. Usually granted for MSc (by research), MD, or PhD.

PART
III

Requirements: Usually satisfied by a scholarly dissertation. The Dissertation may be either, 1.) a recently (2-3 years) published major review, 2.) an edited introduction from a PhD thesis, 3.) a similarly referenced document with considerable academic depth (20-40 typed pages with between 50-150 references), or 4.) a collection of published works – normally 10-15 high impact refereed scientific journal publications. This should be prefaced by an in-depth introduction of 10-20 pages and conclude with a critical summary – normally 10-15 pages.
Exemptions: No Exemptions to Part III

Dissertation reviewed by experts in the discipline

Once the dissertation has been accepted by the committee, it is a requirement that a hard bound copy be submitted to be held at the National Office of the Society.

You will receive a certificate and be bestowed the post nominal FASM.

08/09 Branch Committee Contact List

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