



## The International Organization for Mycoplasmaology (IOM) IOM Newsletter

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Volume 39, Number 2, October 2015

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**Chair:** Dr Steven Djordjevic (Australia); **Chair-Elect:** Prof Cecile Béb  ar (France); **Past Chair:** Prof Daniel Brown (USA); **Secretary-General:** Dr Brad Spiller (UK); **Treasurer:** Dr Gail Gasparich (USA); **Membership Secretary:** Dr Laura Regassa (USA); **IRPCM Chair:** Dr Glenn Browning (Australia); **Information Officer:** Dr Mitchell Balish (USA); **Board Members-At-Large:** Dr Meghan May (USA); Dr Ana Ramirez (Spain); Dr Jorge Timensky (Brazil); Dr Mitchell Balish (USA); Dr Dominiek Maes (Belgium).

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**The 21<sup>st</sup> IOM Congress, Brisbane, Queensland, 3<sup>rd</sup>-8<sup>th</sup> July, 2016**

Abstracts submission will close **5 February 2016**, Register at <http://iom2016.com/>

Start planning your nominations to the honor the highest achievers in Mycoplasmaology:

Deadline for IOM award nominations (**Emmy Klieneberger-Nobel; Derrick Edward Award; Peter Hannan Award and Robert F. Whitcomb Awards**) will be **January 10, 2016**.

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## *MESSAGE FROM THE IOM CHAIR*

Dear colleagues,

I am looking forward to meeting with you when you attend the 21st IOM meeting in 2016 (July 3-7) in Brisbane, the capital of Queensland, Australia. IOM congress plans are on track and progressing well. I have been in regular contact with the Chairs of Local Organizing Committee (Associate Prof. Christine Knox) and the Scientific Program Committee Chair (Prof. Glenn Browning) and they and the committees they lead are working hard to breathe life into what should be a fantastic meeting both scientifically and socially. It is pleasing to see that several international meetings, where Mycoplasma is either the focus or part of a larger Microbiology meeting, are held in the intervening year of IOM. These included ESGMI (European Society for Clinical Microbiology and Infectious Disease Study Group Meeting) (ECCMID study group for Mycoplasma infections) in Copenhagen April 25-28, the 3rd United States Organization for Mycoplasma Infections (June 2015); Progress in Human and Animal Mycoplasma meeting (Istanbul, Turkey, June 3-5, 2015), the Federation for European Microbiology Society (Leipzig, Germany, 21-25 June, 2015) and the American Society for Microbiology (May 30-June 2, 2015). Brief reports summarizing the highlights of several of these meetings are presented below.



I urge you all to be proactive and nominate candidates that deserve recognition for their scientific contributions to Mycoplasma and for sustained service to the IOM. I take this opportunity to congratulate Dr Li Xiao on accepting the responsibilities that come with being Chair of the Awards committee and look forward to working with her over the coming months. The Awards Committee team comprises five holdover members (Prof. Robert Davis, Prof. John Glass, Prof. Saskia Hogenhout, Prof. Kenro Oshima and Dr Li Xiao) from the previous biennia who pledged to serve for 4 years (2012-2016) and five new members. Please join me in welcoming Prof. Cecile Bebear, Prof. Peter Kuhnert, Dr Carole Lartigue, Dr Jorge Timenetsky and Dr Meghan May who all agreed to serve as members of the IOM Awards committee. I look forward to working with you all in the important task of recognising those that have contributed substantially to the field of Mycoplasma and the IOM more broadly.

Continuing from earlier observations made by our Past Chair, Dan Brown (August 2013 Newsletter), I decided to scope how research outputs are trending in the field of Mycoplasma. After some crude "back of the envelope" calculations it is apparent that 650-700 papers appeared annually in PubMed (search query Mycoplasma) during 2012-2014. For 2015 we stand at 524. I am sure we would all like to see these numbers trend upwards. To achieve this goal, we need to be proactive in promoting our field and encourage new membership by enticing young, bright and enthusiastic researchers.

Please ensure that your IOM dues are up to date and invite and encourage new members into our fold. I am trying to do my bit and am proud to mention that several students from my group have been the recipients of poster and/or oral presentation awards at several international meetings including the 3rd VetPath conference 'The Pathogenesis Of Bacterial Diseases Of Animals' Italy, October, 2014; the Australian Society for Microbiology conference, ACT, Australia (June 2015); the Bacterial Pathogenesis Meeting, Victoria, Australia (October 2015) and the Lorne Proteomics meeting (February 2015). I can only hope that sufficient funding opportunities arise for bright, early career mycoplasmaologists from around the world to establish themselves in the field.

Finally, I look forward to seeing many of you again in just over 8 months.

Sincerely

Steven

## 21<sup>st</sup> IOM CONGRESS, 3<sup>rd</sup> TO 8<sup>th</sup> JULY 2016 – BRISBANE, AUSTRALIA



**In no time at all we will be welcoming you to the 21<sup>st</sup> Congress of the International Organization for Mycoplasma.**

Please visit the website <http://iom2016.com/> and you will find lots of helpful information for planning your visit to Brisbane and to Queensland. We will also post regular updates on Facebook, <https://www.facebook.com/IOM2016>.

**Important dates** have now been posted on the website, so time to start planning your abstract.

Abstract submission opens	<b>December</b>
Abstract submission due date	<b>5 February 2016</b>
Notification of poster / oral presentations	<b>late March</b>
Early Bird registration /acceptance of offer	<b>15 April</b>
Early Bird registration closes	<b>31 May</b>
Travel awards	<b>15 April</b>

**Scientific Program:** The event will be held in the Science and Engineering Centre (SEC) at [Queensland University of Technology \(QUT\)](#). This is a very new facility and will offer new possibilities for the scientific program. Presenters will have the option of showing three different images simultaneously on the large screen within the Kindler theatre. Do you have visually spectacular work to present? We will also have electronic posters at this congress and these will be presented within the cube (right side image above). The posters will be displayed around the base of the large screen and individual posters can be enlarged and rotated.

**Accommodation:** By the end of November we will populate the accommodation page. QUT events will reserve a range of accommodation options in the CBD and also in Southbank, which is linked to QUT by a pedestrian bridge. There will be hotel rooms, 1, 2 and 3 bed room apartments – your research group may wish to reserve an apartment, and there will also be back packer accommodation. We will let you know when this information is posted.

**Congress events:** The venues for these have now been selected. The opening ceremony will be in the Gardens Theatre at QUT. The welcoming reception will be held on the Sunday night in the 360 Room, as the name suggests this venue has stunning views of Brisbane, the middle picture of this banner is just one view. The congress dinner will be held on the Wednesday night in the Brisbane Convention Centre, this is located at Southbank. The venue too has stunning views of Brisbane and the dinner can overflow into bars within the precinct. We are still planning two post congress tours. Australia Zoo is proving to be popular. Please let us know if there is another south east Queensland venue that you would like to visit.

**Workshop:** This year QUT has opened a super lab and so we have wonderful new facilities in which to conduct a wet lab workshop. We also have computer laboratories that would be suitable for a bioinformatics workshop. So we have a unique opportunity to conduct these workshops on campus in buildings adjacent to the congress venue on the Saturday and Sunday preceding the congress

**Could all members/ students please let us know if they would be interested in participating in such workshops or if they would be prepared to present and lead sessions within an organized workshop.**

Please copy and paste and email your response to: [c.knox@qut.edu.au](mailto:c.knox@qut.edu.au)

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**Your name:**

**Your affiliation:**

**Student or Presenter**

1. I would be interested in attending a wet lab workshop OR bioinformatics workshop ( delete one).
2. I would be interested in presenting, leading or contributing to a session on:
  - i)
  - ii)
  - iii)

Please list your areas of expertise and describe how you could help.

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We are all looking forward to welcoming you to Brisbane,

Best wishes, on behalf of the Local Organising Committee

Christine

Why not register now for updates at: <http://iom2016.com/> ?

Contact: [iom2016@qut.edu.au](mailto:iom2016@qut.edu.au)

Relax: [www.visitbrisbane.com.au](http://www.visitbrisbane.com.au)

***Local Organising Committee for the 21st International Congress of the IOM***

*Christine Knox – Queensland University of Technology, Brisbane*

*Steven Djordjevic – University of Technology, Sydney*

*Glenn Browning – The University of Melbourne, Melbourne*

*Ian Knox – The Wesley Hospital, Brisbane*

*Emma Sweeney – Queensland University of Technology, Brisbane*

*Samantha Dando – Monash University, Melbourne*

*Renée von Schwan – (Events Manager) QUT Conferences, Brisbane*

## ***CULTURE COLLECTION UPDATE***

Since the last newsletter we have conducted a detailed inventory of the lyophilized specimens in the Mollicutes Collection that originated at the US Department of Agriculture under the direction of Robert F. Whitcomb. This subset consists of about 6,000 vials including of 26 accessions of *Spiroplasma* assigned to species, about 200 accessions typed to *Spiroplasma* spp., about 50 accessions typed to *Acholeplasma* spp., and about 350 unassigned accessions of plant/insect origin. An affiliated set of specimens traceable to Kevin J. Hackett at the USDA consists of 3 accessions of *Spiroplasma* assigned to species, about 80 accessions typed to *Spiroplasma* spp., 10 typed to *Acholeplasma* spp., and 2 unassigned accessions of plant/insect origin. These will all be added to the searchable on-line Global Catalogue of Microorganisms (<http://qcm.wfcc.info/>) before the end of 2015.

I have been invited to attend the US Culture Collection Network's symposium on "Endangered and Orphaned Collections" to be held at the USDA's National Center for Genetic Resources Preservation, Fort Collins, Colorado, October 13-14, 2015. More information about the USCCN is here: <http://aem.asm.org/content/81/17/5671.full> During the past year TMC fulfilled requests for specimens from US labs in Alabama, Iowa, Georgia, Louisiana, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, New York, Ohio, Pennsylvania, Texas and Washington, and overseas labs in Australia, Austria, Bosnia-Herzegovina, Canada, Germany, Hungary, Israel, Spain, Taiwan ROC, Turkey and the UK. Requests for specimens should be emailed to [\[drbrown@ufl.edu\]](mailto:drbrown@ufl.edu).

Daniel R. Brown

9 Sept 2015

Remember anyone can access the culture collection: Costs are \$50 USD per specimen for IOM members and \$100 USD for non-members plus FedEx shipping. Invoices for payment are sent by IOM after the exact shipping costs are determined. Payment by credit card through the PayPal link on the IOM website [\[www.IOM-Online.org\]](http://www.IOM-Online.org) is preferred, although checks or bank transfers can be accepted.

### *MEETING REPORTS – FEMS 2015 – Meghan May and Daniel Brown*

A 2-hour Special Event during June's FEMS2015 Congress in Maastricht titled, "**The Species Concept in the Genomic Era**" was very well-attended and followed by a separate lively discussion on the topic. Mycoplasma and the IOM were highlighted through a platform presentation on "**Type species in the genomic era of Mollicutes**" by D.R. Brown and M.A. May. The event was organized by the International Committee on Systematics of Prokaryotes with support from the Bergey's Manual Trust. The full FEMS2015 program book is available online (<http://emdstudio.co.il/ebook/fems2015/>).

### *MEETING REPORTS – 115<sup>th</sup> ASM General Meeting – Meghan May*

American Society for Microbiology May 30th to June 2nd 2015(New Orleans, Louisiana, USA)

The annual meeting of the ASM allowed for members of **Division G (Mycoplasma)** to meet, socialize, and present findings to the organization. We were pleased to welcome a large group of scientists from the University of São Paulo, and would be thrilled to welcome similar international contingencies in the future. Division G submitted proposals for two symposia that were selected by the Scientific Program Committee. One symposium focused on **pathogen evolution and forecasting** featured a platform talk the Division G chair, Dr. Meghan May (University of New England), who also convened the session. The annual poster session featured thirty abstracts from students, faculty, postdoctoral researchers, and staff. Support for three student awards to offset travel was granted based on merit. The **student awardees** were **Monica Feng** (Miami University), **Katherine Pflaum** (University of Connecticut), and **Izadora Rezende** (University of São Paulo). The annual division G dinner was wonderful as always, and was arranged and organized by Dr. Xiao Li. The evening student presentation session featured talks by four doctoral candidates: Arthur Totten (University of Alabama at Birmingham), Izadora Rezende (University of São Paulo), Monica Feng (Miami University), and Katherine Pflaum (University of Connecticut). Finally, Monica Feng's work on a biofilm-disrupting compound was featured by the ASM as a "newsworthy abstract". Despite the continued excellence of our division, major changes within ASM programmatic structure make prevalence and cohesiveness continually difficult for specialized fields. Nonetheless, mycoplasma remains alive and well within the ASM, and I look forward to seeing many of you again next year in Boston, MA.

## *MEETING REPORTS – 3<sup>rd</sup> USOM – Meghan May*

### **United States Organization for Mycoplasmaology holds its third meeting**

The 3rd biennial meeting of the United States Organization for Mycoplasmaology (formerly colloquially called the United States Mycoplasmaology Consortium) was successfully held in San Antonio, Texas in June 2015. The meeting was hosted by Dr. Joel Baseman and Dr. Thirumalai Kannan, with the help and support of Ms. Rose Garza. There were 45 delegates in attendance, including 26 faculty, 9 students, 5 postdocs, and 5 staff. Meeting sponsors included BioLegend®, Rainin®, Fisher Scientific®, and VWR®. Nineteen oral platform presentations were made, and for the first time a poster session featuring students and postdocs was included in the meeting. Awards were presented for the most outstanding poster by a student and postdoctoral scientist. The 2015 awardee for an **outstanding postdoc poster** was **Dr. Jesús Segovia** (University of Texas Health Science Center at San Antonio). The 2015 awardees for an **outstanding student poster** were **Maximillion Mize** (University of North Texas Health Science Center) and **Katherine Pflaum** (University of Connecticut) [tied]. A substantial business and organizational meeting was held following the final scientific session, and this meeting resulted in the formal decision to rename the group, introduce a small amount of structure and governance, and establish a website and social media presence. The inaugural officers of the United States Organization for Mycoplasmaology are Dr. Mitchell Balish, chair, and Dr. Meghan May, secretary-general. The USOM website can be visited at [www.usomycoplasmology.org](http://www.usomycoplasmology.org), and the Facebook site is at <https://www.facebook.com/USMycoplasma>. For inquiries or website input, please contact Dr. May at [mmay3@une.edu](mailto:mmay3@une.edu) or Dr. Balish at [balishmf@miamioh.edu](mailto:balishmf@miamioh.edu). The next USOM meeting will be held in June, 2017.

## *MEETING REPORTS – ESGMI update 2015 – Victoria Chalker*

The annual meeting for ESGMI (ECCMID study group for *Mycoplasma* infections) was held at **ECCMID 2015**, Copenhagen with 9 participants. 26 members had registered to be members of the study group. The 2014 annual report was presented, the committee had reviewed several grants and abstracts for ESCMID, finalized an international MLVA guidelines study and MLVA database, held an educational workshop on *Mycoplasma pneumoniae* attended by approximately 300 people at ECCMID 2015, secured funding support for a *Mycoplasma* conference on Human and Animals Mycoplasmas in Pendik Turkey in June 2015. Future study group proposals were discussed (grants available of up to €30,000). An application has been accepted to host a “meet the expert” session at **ECCMID 2016** (to be held in Istanbul, Turkey, April 9-12, 2016) **‘How to diagnose and treat infections due to *Mycoplasma genitalium* and other emerging sexually transmitted pathogens.’**

References:

- 1- MLVA guidelines reference: Chalker VJ, Pereyre S, Dumke R, Winchell J, Khosla P, Sun H, Yan C, Vink C, Bébéar C for the ESCMID Study Group for *Mycoplasma* Infections. International *Mycoplasma pneumoniae* typing study: interpretation of *M. pneumoniae* multilocus variable-number tandem-repeat analysis. *New Microbes New Infect.* 2015 May 23;7:37-40. doi: 10.1016/j.nmni.2015.05.005.
2. Web link of the MLVA *Mycoplasma pneumoniae* database:  
<http://mlva.u-psud.fr/mlvav4/genotyping/> click "log on" then register (this is free), then inform Sabine Pereyre, the administrator, of your registration ([sabine.pereyre@u-bordeaux.fr](mailto:sabine.pereyre@u-bordeaux.fr)) and she will give you the rights on the database.

**Note from editor:** You can also assign *M. pneumoniae* MLST profiles using the BIGSdb genomics platform using the free database <http://pubmlst.org/mpneumoniae> (contact administrator at [Vicki.Chalker@phe.gov.uk](mailto:Vicki.Chalker@phe.gov.uk)) as outlined in *J Clin Microbiol.* 2015 Oct;53(10):3195-203. doi: 10.1128/JCM.01301-15.

***TREASURER'S REPORT – Gail Gasparich***

**International Organization for Mycoplasmaology  
Treasurer's Report  
7/1/2015-9/30/2015**

**Cash Balance at the Beginning of the Period:** \$14,393.45-\$14,388.45 (Checking Account) + \$5.00 (Savings Account)

**Income Received During the Period Covered:** \$13.65  
Income from reimbursement for antisera shipment

**Expenses Paid During the Period Covered:** \$58.50  
Wire Transfer fee for sending wire transfer for IOM membership into IUMS (International Union of Microbiological Societies)

**Cash Balance at the End of the Period Covered:** \$14,348.60-\$14,343.60 (Checking Account) + \$5.00 (Savings Account)

**Financial Issues for 2015-2016:**

There are a few outstanding requests for payment for shipments from the Mycoplasma Culture Collection but people tend to pay in a timely manner upon receipt of an invoice.

Sponsors: Need to start seeking sponsorship for the 2016 IOM Meeting.

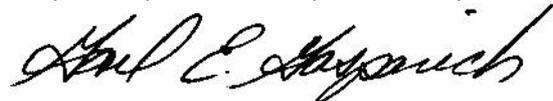
**Additional Investment Account Updates:** Total \$108,450.60

Vanguard Admiral Treasury Money Market Fund	\$5,268.17
Vanguard Short-Term Federal Fund Admiral Shares	\$72,206.89
Vanguard Short-Term Treasury Fund Investor Shares	\$30,975.54

June 30, 2015 Balance was \$107,763.85 so quarterly change was an increase of \$686.75

**Information on current membership:** My database shows 71 current members paid beyond 2014- perhaps with the meeting coming up people will remember to renew-should verify membership prior to submission of abstracts.

Respectfully Submitted by Gail E. Gasparich, Ph.D., IOM Treasurer



9/30/2015

*NOMINATIONS FOR THE 2016 IOM AWARDS*



**The International Organization for Mycoplasma**  
*Dedicated to the study of the Mollicutes*

It is time to start thinking about those individuals that have been central to pushing back the frontiers of research for Mycoplasma. Every biennia the IOM recognises outstanding achievement by our colleagues. The awardees will give a keynote talk at the 2016 Congress and be awarded with a certificate and a cheque for \$1000 U.S.

The Chair for the current awards panel is Dr. Li Xiao at University of Alabama at Birmingham, U.S.A. She will be requesting your nominations for recognition of our outstanding colleagues which will be distributed shortly. The Awards and their criteria are detailed in full at:

<http://www.iom-online.org/node/54>

The award categories are:

**Emmy Klieneberger-Nobel Award** -- for outstanding research in Mycoplasma

**Derrick Edward Award** -- for outstanding research in Mycoplasma by a young investigator

**Peter Hannan Award** -- for outstanding research in applied clinical Mycoplasma

**Robert F. Whitcomb Award** – for outstanding research in plant and insect Mycoplasma

***Get your thinking caps on and let's reward those deserve recognition for their outstanding achievements!***

## FROM THE READERS-Frank Bastian -

Frank wanted to bring the increasing acceptance for the possibility of a role for Mycoplasma to development of neurological disorders to the attention of the newsletter readership. Below are the abstracts from 2 papers that he has recently published to support this hypothesis:

*J Alzheimers Dis Parkinsonism* 2014, 4:2 <http://dx.doi.org/10.4172/2161-0460.1000141>

### *Cross-Roads in Research on Neurodegenerative Diseases* Frank O Bastian\*

#### **Abstract**

Alzheimer's disease (AD) is the most prevalent of the neurodegenerative amyloid diseases and is characterized by accumulation of amyloid- $\beta$  and tau. Recent studies have indicated that AD may be a brain infection. Although AD has not been shown to be transmissible, the burning issue is whether the potential infectious causes are the misfolded amyloid proteins themselves, or an unidentified microorganism. The idea of a replicating protein (prion) evolved from research on the transmissible spongiform encephalopathies (TSE) represented by Creutzfeldt-Jakob disease in humans. Prions are now suspect in all of the amyloid related neurodegenerative diseases. However, the popularized prion theory is controversial since there is convincing evidence that spiroplasma, a wall-less prokaryote, is involved in the pathogenesis of TSE, and may represent the trigger mechanism. Interest in bacterial involvement in AD has surfaced from discovery that most bacteria produce biofilm and that components of the biofilm experimentally induce misfolded amyloid proteins. The recent discovery of *H. pylori* in AD has brought this controversy to a head. In this review we will discuss involvement of bacteria as candidate causal agent/s for the neurodegenerative diseases, and relate the evidence to involvement of spiroplasma in the pathogenesis of the TSEs as a model for these neurodegenerative diseases

*J Neuropathol Exp Neurol* Vol. 73, No. 2 February 2014 pp. 104-114.

### **The Case for Involvement of Spiroplasma in the Pathogenesis of Transmissible Spongiform Encephalopathies**

Frank O. Bastian, MD

#### **Abstract**

Spiroplasma biofilm formation explains the role of these wall-less bacteria in the pathogenesis of transmissible spongiform encephalopathies (TSEs). Spiroplasma embedded in the biofilm polysaccharide matrix are markedly resistant to physical and chemical treatment, simulating the biologic properties of the TSE agent. Microcolonies of spiroplasma embedded in biofilm bound to clay are the likely mechanism of lateral transmission of scrapie in sheep and chronic wasting disease in deer via soil ingestion. Spiroplasma in biofilm bound to the stainless steel of surgical instruments may also cause iatrogenic transmission of Creutzfeldt-Jakob disease. Sessile spiroplasma in biofilm attach to the surface by curli-like fibrils, a functional amyloid that is important for spiroplasma entering cells. Curli fibers have been shown to interact with host proteins and initiate formation of a potentially toxic amyloid that multiplies by self-assembly. In TSE, this mechanism may explain how spiroplasma trigger the formation of prion amyloid. This possibility is supported by experiments that show spiroplasma produce  $\alpha$ -synuclein in mammalian tissue cultures. The data linking spiroplasma to neurodegenerative diseases provide a rationale for developing diagnostic tests for TSE based on the presence of spiroplasma-specific proteins or nucleic acid. Research efforts should focus on this bacterium for development of therapeutic regimens for Creutzfeldt-Jakob disease.