

FOREWORD

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Dear Colleague,

We start this issue with information on forthcoming EAVLD congress, this year in Brussels. We expect to meet you there and share with you recent developments and progress in laboratory diagnostics. Bursaries from the Board will be offered to 3 young scientists based on the quality of their submissions. We provide recent news about keynote speakers of EAVLD2018 from www.eavld2018.org.

Information on the change in the composition of the Board is included.

We also continue the series of presentations of Reference Laboratories, this time with the report on the activities of the Swiss Center for Zoonoses, Bacterial Epizootics and Antimicrobial Resistance.



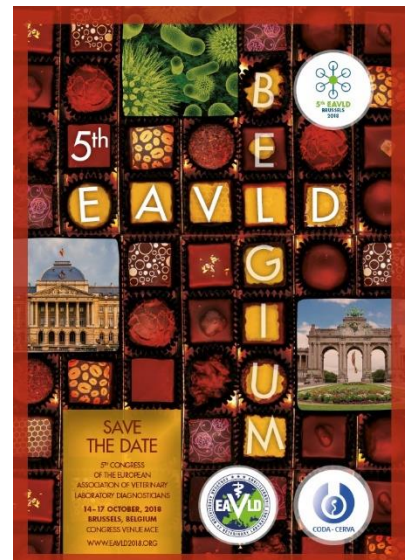
5th EAVLD

14-17 OCTOBER 2018, MCE BUSINESS AND CONFERENCE CENTRE, BRUSSELS



EAVLD Congress in 2018

Next EAVLD congress will be organized this year in Brussels between 14-17 October. The venue of the event will be MCE Conference & Business Centre, located in the heart of the city. It is the perfect location for all your events and meetings from 10 to 700 attendees. MCE Conference & Business Centre sits near Avenue Louise and Place du Châtelain in the centre of fashionable Brussels. With a great selection of shops, cafés, restaurants, hotels and local gourmet markets right on its doorstep, MCE is the perfect location to get a feel of cosmopolitan and fashionable Brussels. Brussels airport is only 20 minutes by train from the city centre and it takes only 10 minutes by car from the main railway stations in Brussels and near major tram and bus lines to get to MCE. Registration and abstract submission will be available during March 2018. Scientifically the congress is organized by CODA-CERVA (Veterinary and Agrochemical Research Centre), Belgian





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Federal scientific research establishment. More details on the program of the congress should be available later in 2018 on congress website at this address: <http://www.eavld2018.org>.

Abstract submissions is open now at: <http://www.eavld2018.org/submission-guidelines.htm>. The deadline is 10 May 2018.

EAVLD2018 Keynote Lectures

Exact titles and abstracts to be communicated soon.

.1.1 Enzootic Diseases Session
Monday 15 October 2018 a.m.

.1.1.1 Keynotes Speakers

- Christian Gortazar Schmidt (UCLM, Spain)
 - Tuberculosis
- Joaquim Segales (CRESA, Spain)
 - Porcine circoviruses

.1.2 Standardization, Validation and Surveillance Session
Monday 15 October 2018 p.m.

.1.3 Keynote Speaker

- Bruno Garin-Bastuji (ANSES, France)
 - Towards Euroreferences

.1.4 Epizootic, Emerging and Vectorborne Diseases of Livestock Session (joint session with Epizone)
Tuesday 16 October 2018 a.m.

.1.4.1 Keynotes Speakers

- Sandra Blöme (FLI, Germany)
 - African Swine Fever
- Piet van Rijn (WUR, The Netherlands)
 - Bluetongue virus

.1.5 One Health: Foodborne Pathogens, Zoonosis and Antibioresistance Session
Tuesday 16 October p.m.

.1.5.1 Keynote Speaker

- Antonia Ricci (IZSve, Italy, OIE reference Center of salmonellosis)
 - Antibiotic resistance in a European perspective



.1.6 Advances in Diagnostics Session

.1.7 Wednesday 17 October a.m.

.1.7.1 Keynote Speaker

- Ela Howson (Pirbright, UK)

Technological advances in veterinary diagnostics

Bursaries for Young scientists/PhD students attending EAVLD2018

EAVLD will offer young scientists and PhD students bursaries to three presenting authors of accepted abstracts (poster or oral presentation). The selection will be made by the Congress Scientific Committee and will be approved by the EAVLD Board.

Eligible persons are:

PhD students

Post-docs with less than 3 years of experience as a post-doc

The bursary will be 500 euro per person.

Change(s) in the Board of EAVLD

Unfortunately, at the end of July 2017, Peter Wragg from APHA, UK involved in secretary work as EAVLD Board member, had to tender his resignation from the Board. As he mentioned in his email:..."I very much appreciate all the help and friendship you have given me during my very short period of office within the Board. I have very much enjoyed working with you and have fond memories of my time at EAVLD conferences in The Netherlands and the Czech Republic". The whole Board wants to thank Peter for his devoted work at the secretary position.

APHA would very much like to maintain a presence on the board of EAVLD, and are committed to continuing their contribution to the very important work of the Association. Therefore, the Board was informed, that Mr Angus Wear would like to stand as a replacement for Peter on the Board. He was provisionally approved by the Board during our teleconference meeting. However, the new Board Member selection procedure according to EAVLD Statute is more complicated and it involves the following steps:

- Board shall appoint a temporary replacement to the post. The post will then be open for election at the next General Meeting.
- The Board has the ability to appoint new Board members as necessary, but these must be confirmed by election at the next General Meeting.

- A minimum of four Board members must be present during a Board meeting, and voting will be by simple majority of the members present. In the case of a tied vote, the President will have a casting vote.

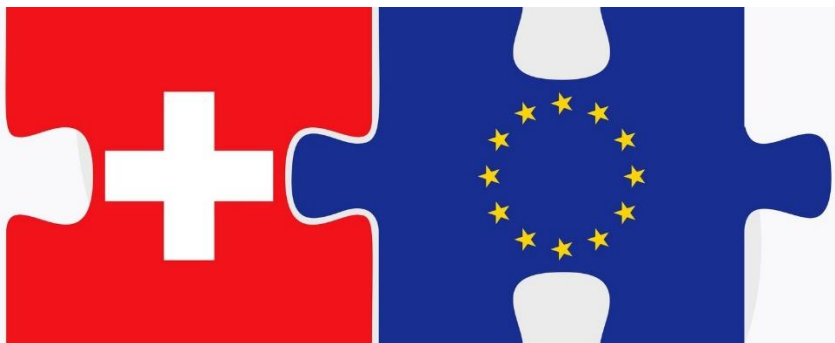
So the whole process of appointing Angus Wear as the substitute for Peter will be finalised during our next EAVLD congress in Brussels this October.

Other changes in the Board composition will also take place during EAVLD2018 congress. Elena Bozzetta will step down from the position of EAVLD President and automatically she will become a past-president. Eefke Weesendorp, current Vice-President will become the President of EAVLD and Miroslaw Polak will step down from the Board at least for two years. Therefore every EAVLD member can propose a candidate for the Board in Brussels or indicate him/herself. The voting will take place during General Assembly of the members of EAVLD during EAVLD2018 congress. If you want to joint the Board don't wait until the Congress, send your name by email to Elena at: elena.bozzetta@izsto.it.

Activities of the Swiss Center for Zoonoses, Bacterial Epizootics and Antimicrobial Resistance (ZOBA)

History:

Switzerland is not a member of the European Union, therefore EU regulations and decisions are not directly effective in Switzerland as they are in EU member countries. Nevertheless, Switzerland maintains close relations with the European Union on all levels such as economy, science and trade. These relations are governed by a set of bilateral agreements concluded over the last twenty years.



www.wbf.admin.ch

The Swiss veterinary sector adopted the EU hygiene package with the main regulations 852/2004, 853/2004 and 854/2004 as well as the regulation 882/2004 and transferred it into national legislation. The ZOBA was founded in 2004 and is a collaboration between the Federal Food Safety and Veterinary Office (FSVO) and the Institute of Veterinary Bacteriology at the University of Bern. It hosts national reference laboratories for a wide range of bacterial zoonoses, bacterial epizootics and for

antimicrobial resistance. Thus, Switzerland has also become part of the EFSA community summary reports.



Agriculture in Switzerland:

Swiss farms hold about 5 Mio broilers, 3 Mio laying hens, 1.6 Mio pigs and cattle and about 160,000 breeding poultry. With approximately 7.9 million inhabitants the self-sufficiency differs between the different meat categories. For broiler meat and eggs only 45-50% of the Swiss customers' demands are covered by Swiss farming. In contrast, the Swiss farmers provide 80 and 95% of meat of the entire domestic market for pork and beef, respectively. Farms in Switzerland are compared to farms elsewhere in Europe rather small (Fig. 1) and are not specialized in just one livestock species.



Figure 1: Typical livestock holdings in Switzerland

Flock size for laying hens differs between 4,000 and 18,000 birds per farm. Battery cages were already banned in 1992 and >60 % of the laying hens are kept free range. Approximately 50% of Swiss pigs are kept on farms with less than a total of 50 animals. The percentage of free-range pig farming has shown a steady increase during the last years. The majority of farms that keep cattle are small and more than 4,000 out of X farmers keep their cattle in mother cow husbandry.



Tasks and duties of the ZOBA:

The ZOBA is part of the Institute of Veterinary Bacteriology at the University of Bern. It provides diagnostic services for the clinics of the Vetsuisse faculty and for public and private veterinarians. Additionally, the ZOBA hosts many national reference laboratories covering a broad variety of bacterial zoonoses and epizootics and antimicrobial resistance (Table 1). The tasks and duties of the national reference laboratories are described in the Directive 882/2004. Among these are the species confirmation, the organization of ring trials for pathogens addressed by the national reference laboratories, the diagnostic backstopping for accredited and canton-authorized diagnostic laboratories in Switzerland. The ZOBA hosts moreover the national antibiotic resistance monitoring platform for Swiss livestock and fresh meat, which works according to the EU Decision 2013/652/EU. On the European level the ZOBA is embedded in several networks such as the European reference laboratories for **antimicrobial resistance** (DTU, Lyngby, Denmark), for **Salmonella** (RIVM, Bilthoven, The Netherlands), for **Campylobacter** (Uppsala, Sweden), for **Brucella** (ANSES, St. Etoile, France) and for **contagious equine metritis** and **glanders** (ANSES, Dozulé, France).



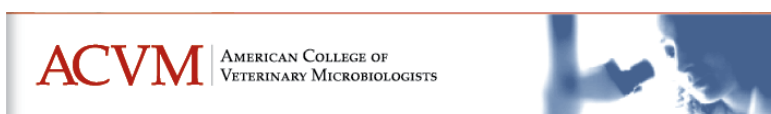
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Table 1: National Reference Laboratory Activities of the ZOBA

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|-----------------------------------|
| Brucellosis |
| Campylobacteriosis |
| Salmonellosis |
| Yersiniosis |
| Listeriosis |
| Tularemia |
| Anthrax |
| Contagious bovine pleuropneumonia |
| Bovine campylobacteriosis |
| Enzootic pneumonia in swine |
| Porcine Actinobacillosis |
| Black leg |
| Contagious equine metritis |
| Infektious agalactia |
| Leptospirosis |
| Antimicrobial resistance |

Education:

Since 2015 the Institute of Veterinary Bacteriology and specifically the ZOBA accommodates a resident training program for diplomates of the American College of Veterinary Microbiologists. It is the only European institution that offers such a program so far and aims to achieve the highest quality standard of veterinary diagnostics in the field of bacteriology. The American College of Veterinary Microbiologists (ACVM) in general is recognized by the American Veterinary Medical Association for Certification of veterinarians in the areas of bacteriology and mycology, virology, immunology, and parasitology and virology.



Diagnostic highlights:

While covering a broad spectrum of pathogens to be diagnosed it is obvious that many interesting clinical cases are part of our daily routine diagnostic work. A selection of diagnostic highlights is summarized below.

In 2009 we were faced with an outbreak of *Brucella (B.) suis* in Mangalitza pigs. The primary isolation of *B. suis* from tissue samples of a Mangalitza boar was performed at an approved cantonal laboratory. The boar showed severe pathological signs and was therefore analyzed for *Brucella* species by culture. The ZOBA confirmed the identification of *B. suis*, biovar 2 and performed all analyses in the course of the eradication measures. Further investigations led to two more affected farms. In the context of this outbreak the cultural detection method was improved by using a special technique for the analysis of intracellular pathogens. The goal of this technique is the mechanical homogenization of tissue prior to an enzymatic degradation of host cells. It was discussed that wild boar may be the source of infection since the seroprevalence of *B. suis* within the Swiss wild boar population is high with more than 35% seropositive animals. By a molecular typing approach using MLVA we could show that isolates from Mangalitza pigs constituted a unique subcluster, which was distinct from isolates from wild boars. It turned out that the newly introduced Mangalitza boar was the origin of the infection and not wild boars in the vicinity of the farm. The infection of this boar remained undetected for a longer period of time and the bae was even lent to two other farms for insemination. As a consequence sows of these farms got infected.



Figure 2: *B. suis* outbreak 2009 in Switzerland

For further details: [Abril C](#), [Thomann A](#), [Brodard I](#), [Wu N](#), [Ryser-Degiorgis MP](#), [Frey J](#), [Overesch G](#) 2011
A novel isolation method of *Brucella* species and molecular tracking of *Brucella suis* biovar in domestic and wild animals. [Vet Microbiol](#) 2011; 150: 405-410

Hinić V, Brodard I, Thomann A, Holub M, Miserez R, Abril C. 2009 S711-based real-time PCR assay as a tool for detection of *Brucella* spp. in wild boars and comparison with bacterial isolation and serology. *BMC Vet Res.* 2009; 14: 5-22.

Methicillin-resistant *Staphylococcus aureus* (MRSA) are known as a major cause of nosocomial infections in hospitals and other health-care facilities (“hospital-acquired (HA) MRSA”). In the 1990s an increasing incidence of human MRSA infections was observed that appeared to be independent from hospitals but rather occurred outside in the community (“community-acquired (CA) MRSA). With the emergence of MRSA in animals (“livestock-acquired” (LA MRSA) more recently the MRSA problem acquired a “One Health” dimension. In contrast to other European countries, in Switzerland a continuous increase of the MRSA prevalence in slaughter pigs since 2009 could be observed. Because of the emergence of MRSA in livestock populations worldwide, Swiss authorities decided to include screening for MRSA into the nationwide monitoring of antimicrobial resistance. In the first year of the study (2009) the prevalence of MRSA in Swiss slaughter pigs was very low at 2.0%. But already the following year the prevalence increased nearly three-fold to 5.9%. In 2013 the prevalence was 20.8%, and further increased to 44% in 2017.

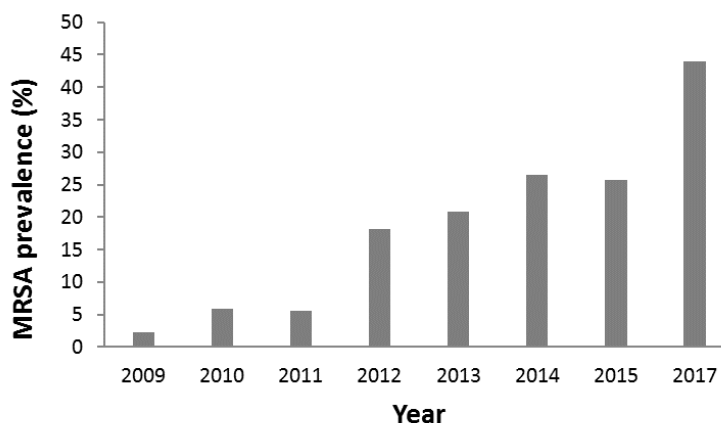


Figure 3: Prevalence of MRSA in Swiss slaughter pigs from 2009 - 2017

For further details: Bangerter PD, Sidler X, Perreten V, Overesch G 2016 Longitudinal study on the colonisation and transmission of methicillin-resistant *Staphylococcus aureus* in pig farms. *Vet. Microbiol.* 2016; 183: 125-134

Overesch G.; Büttner S.; Rossano A.; Perreten V. 2011 The increase of methicillin-resistant *Staphylococcus aureus* (MRSA) and the presence of an unusual sequence type ST49 in slaughter pigs in Switzerland. *BMC Vet Res* 2011; 7: 30

In 2014 the first case of chronic proliferative rhinitis (CPR) in sheep was described in Switzerland. This disease is associated with *Salmonella (S.) enterica subspecies diarizonae (IIIb) serovar 61:(k):1,5,(7)* (S. IIIb 61:(k):1,5,(7)). Three sheep from a flock of Texel sheep suffering from chronic nasal discharge and dyspnea with subsequent death were necropsied and S. IIIb 61:(k):1,5,(7) could be isolated from nasal turbinates. The affected flock was systematically tested after the first occurrence of the disease. A high positivity of nasal mucosa (87.1%) in adult sheep was found, whereas the lambs were all negative. CPR represents a chronic disease in adult sheep posing a risk for spreading S. IIIb 61:k:1,5,(7) between flocks and with a zoonotic potential.

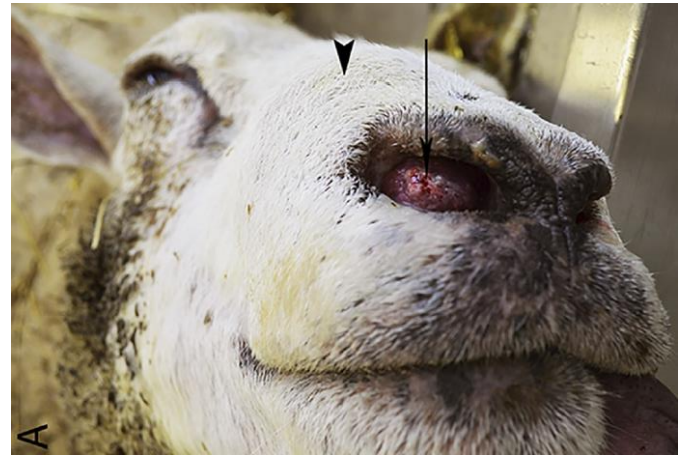


Figure 4: Chronic proliferative rhinitis in an adult Texel sheep

(kindly provided from Nadine Stokar-Regenscheit, ^a Institute of Animal Pathology, Vetsuisse Faculty, University of Bern, Länggassstrasse 122, 3001 Bern, Switzerland)

For details:

Stokar-Regenscheit N⁺, Overesch G⁺, Giezendanner R, Roos S, Gurtner C 2017 *Salmonella enterica* subsp. *diarizonae* serotype 61:k:1,5,(7) associated with Chronic Proliferative Rhinitis and high nasal colonization rates in a flock of Texel sheep in Switzerland. ⁺ These two authors contributed equally to this study *Preventive Veterinary Medicine* 2017; 145: 78-82

Also in 2017, having newly taken up the reference function for glanders, our laboratory for the first time got the chance to isolate *Burkholderia mallei*. Serum and nasal swabs from a nepalese working horse with severe clinical signs were sent by a Swiss veterinarian, who was working in a humanitarian project.

www.veteriankey.com



Figure 5: Diseased horse with massive purulent nasal discharge

From culture typical colonies were confirmed to be *Burkholderia mallei* by real-time PCR. The complement fixation test showed a positive titer of 640 IE/ml. Although serious zoonoses like glanders are eradicated in Western Europe, laboratories have to be aware that due to the worldwide travel and exchange of animals these diseases may suddenly occur at the laboratories and the biosafety procedures for analyzing these samples have to be appropriate and practiced.



Figure 6: The department of infectious diseases and pathobiology with the institute of veterinary bacteriology at the first floor.