Evolution's Traces

Millions of years ago primordial life forms started perceiving light. Single cells first, then more organized multicellular organisms started using photopigments of the rhodopsin family to move in a progressively wider battlefield for life. From the cell substrate to the environmental space each organism selected its ideal ecosystem. Later, more sophisticated organisms developed with complex systems to perceive light stimuli, and the eyes became critical for survival.

Living in a limited spatiotemporal dimension we don’t have memory of that evolution but see traces of it in each eye we examine, and are reminded of that enduring process through our knowledge of embryology, knowing what every single cell does, why it plays the specific role it does, and how precisely timed that action must be.

Isn’t it beautiful? We are lucky observers of, and pay testimony to evolution while doing our job, having an important role to help maintain sight. Like mythical cavaliers we are fighting darkness to let light prevail.

As in the motto of the American College of Veterinary Ophthalmologists: “…that light shall prevail over darkness”.

A meaningful sentence for all of us dedicated to Veterinary Ophthalmology.

Claudio Peruccio

Letter from the ISVO President

The young faces of veterinary ophthalmology – placing our trust in the next generation

On behalf of all attendees but especially the handful who had travelled equally long distances around the World to attend the European College of Veterinary Ophthalmologist’s 2014 Congress held recently in London, I want to say what a successful meeting it was, with such a large attendance coming together at the historic City of Westminster, under such perfect clear skies (and moonlit nights!) and where a truly wonderful time was had by all.

The scientific program was excellent from start to finish and the guest speakers all gave of their best, especially the modest but inspiring Professor Harminder Dua who delivered the keynote address. Full congratulations are due to President Gillian McLellan and her Committee, Claudio Peruccio as Planning Committee Chair and also to Rick Sanchez, Claudia Busse and Heidi Featherstone who as the ECVOs ‘members on the spot’ were responsible for selecting such an eminently central venue. The Queen Elizabeth II Conference Centre’s reception areas offered a grandstand view across to the famous West Door of Westminster Abbey, the focal point for almost 1,000 years of British crown history tracing right back to William the Conqueror – with Big Ben’s clock tower and the British Houses of Parliament in the background.

I was not able to attend all of the sessions but it was clear from the packed Lecture Hall and the very crowded Trades Display areas, that even for a group of such disparate native languages all coming together in a hubbub of carefully spoken English, many earnest discussions on future
‘career direction’ options were taking place! Call it one of the realities of ageing, but one could only be impressed by the sea of enthusiastic young faces who have chosen ophthalmology as their primary career path and seeing a few of them up on the podium describing their work in challenging areas of ground-breaking clinical research, one can’t help feeling that we as a unique veterinary specialty are on the cusp of a new age of discovery, that will benefit not only our own patients but our fellow humans as well, through the flow of truly amazing new discoveries in molecular biology and the comparative visual sciences.

Recognition is also due to Gerlinde Janssens, whose quick work with the digital camera caught so many key moments in a tightly-run program, some of which I am sure Claudio will publish in this issue of the Globe. Here are two that registered most with me – one of present and past ISVO Board Members with their spouses (who is that ‘old fart’ from America, and his lovely wife?)

and one showing the bright new faces of veterinary ophthalmology, across Europe and the World.

My faith in the upcoming generation of highly committed young graduates has only been heightened last weekend at the ANZCVS Science Week Ophthalmology program, where in a College Chapter of barely 20 registered veterinary eye specialists, this year we have no less than FIVE graduates enrolled in College-approved residency training programs, who will be expecting to complete credentials and hopefully take Fellowship or overseas Diploma exams in the next 3 or 4 years.

Keep up the good work, Gen. Y (or perhaps it is Gen. Z, already?).

Bruce Robertson
ISVO President
(Sydney, Australia).

The ISVO - Acrivet Scholarship

Thanks to generous sponsorship from Acrivet, the ISVO is in the position to offer travel scholarships to aspiring ophthalmologists who wish to spend one month of study in a centre of ophthalmic excellence.

The scholarship will cover tuition, travel and subsistence costs up to $2,000 per person. Thanks to the generosity of the ACVO, Scholars will also receive a free 1-year subscription to the Veterinary Ophthalmology journal. Applications should include a full curriculum vitae and a plan for the study to be undertaken, including a statement to justify the necessity for the application for funding.

The selection of successful applicants will be made by members of the ISVO Executive Committee and any decision will be final. Unsuccessful applicants will be permitted to re-apply for subsequent scholarships.

Further information can be obtained from the Secretary at: sandra.vanderwoerdt@amcny.org

Our Sponsor’s Voice

Acrivet extends its best wishes to the ISVO and we are pleased to be part of this exciting initiative to help in the continuing education of veterinary ophthalmologists worldwide. Our sponsorship of the ISVO-Acrivet Scholarship recognises particularly the rapid development of interest in ophthalmology in countries where teaching resources are currently limited and we would hope that our support will enable the development of expertise in such countries. We
will raise the funding through a small levy on the sale of our intra-ocular lenses, tension rings, and viscoelastics. These products will be labelled to recognise our contribution to the project.

Ingeborg Fromberg, DVM
Director, Veterinary Division, Acivet

In Memory of ....

I was honoured to first meet Glenn A. Severin and his wife Joan in the 1980s. He was already a recognized father of Veterinary Ophthalmology, and devoted to teaching.

Glen has left the human stage but his footprints are clearly visible on the ground of progress and new generations keep walking on the same path. Our memory is just a way to let younger colleagues know one of the pioneers to whom we are grateful.

Claudio Peruccio

Obituary
Dr. Glenn A. Severin
Glenn A. Severin, 84, of Fort Collins passed away in his home Sunday, April 20, 2014 surrounded by his family. Glenn was born October 31, 1929 in Eaton, Colorado to Edythe and Carl Severin. He graduated from Eaton High School in 1947 and continued his schooling at Colorado State University. In 1951 Glenn married Joan Herrick and they later became the proud parents of five children. After completing his degree in Veterinary Medicine in 1953, he proudly served his country in the United States Air Force (1953–1955). Glenn practiced veterinary medicine in Salt Lake City, Utah for two years and then he returned to Colorado State University in 1957 as an Assistant Professor in small animal medicine and completed his master’s degree in physiology in 1963. After becoming a full professor in 1969, he focused his career in veterinary ophthalmology developing a nationally and internationally recognized program. After 39 years of exemplary service to Colorado State University and the veterinary profession, Dr. Severin retired in 1996 from the Department of Clinical Sciences in the College of Veterinary Medicine and Biomedical Sciences.

Dr. Severin was largely responsible for developing the cardiology, ophthalmology, and small animal internal medicine services of the Colorado State University Veterinary Teaching Hospital for the purpose of teaching professional veterinary medical students. He was one of the founding diplomates of the American College of Veterinary Ophthalmologists and the American College of Veterinary Internal Medicine. He has served in numerous national and state professional organizations and was elected as president of the American College of Veterinary Ophthalmologists in 1978 in recognition of his contributions to the specialty.

Dr. Severin authored or co-authored over 100 scientific publications and was recognized nationally as an expert in veterinary ophthalmology. His textbook on Veterinary Ophthalmology is a standard in the profession and has been published in four languages. Students recognized his outstanding abilities as a teacher and clinician by electing him the top small animal clinician on 5 separate occasions. Throughout his career, Dr. Severin has been recognized, as few others have, for his outstanding service to the University and the veterinary profession. He was awarded the Oliver P. Pennock Distinguished Service Award in 1973 by Colorado State University. He received the American Animal Hospital Association Service Award in 1971, the Veterinarian of the Year Award in 1977, and a Merit Award in 1988. Among other awards, he received the
Outstanding Faculty Member Award from the Colorado Veterinary Medical Association in 1985 and the Veterinarian of the Year in 1994. Glenn is survived by his Wife, Joan Severin; Sons, COL (Ret.) Scott (Carrie) Severin and Mark (Lynn) Severin; Daughters, Karin (Bill) Maulsby and Ann (Ken) Doty; Brother, Dean Severin, and eight Grandsons, three Granddaughters, and five Great-grandchildren. He was preceded in death by his parents, infant son Glenn Jay Severin, and two Great-grandsons.

News in Short

From Japan
First International Conference on Ocular Surface Diseases in Dogs and Cats
6-8 March, 2014 Niseko, Hokkaido, Japan

The first international meeting on Ocular Surface Disease of Dogs and Cats was held from March 6-8 at Niseko - the world-famous ski resort in Japan. One of the attendees, Professor David Maggs described the meeting as “A group of about 30 enthusiasts who met for the first International Veterinary Ocular Surface Disease conference in Japan. It was an outstanding success and we aim to make this a regular meeting. To enhance its visibility to others around the world, we will next host a short meeting in conjunction with the ACVO in Fort Worth, Texas in October 2014.”

There were so many interesting topics as I report here.

Program of the Niseko Meeting

Briefing: What is the ocular surface? - Akihiko Saito
1. Clinical use of Lissamine green - Naoaki Takiyama
2. Tearfilm mucins: The role of membrane-associated and secretory mucins - Yasuyoshi Umeda
3. Canine tear volume measurement: Correlation of PRT and STT and a new tear volume assay (SMT) - Yoshiyuki Kazama
4. Morphological observation of canine meibomian glands using non-contact meibography - Yasunari Kitamura
5. Clinical application of canine meibography - Yasunari Kitamura
6. Effect of hot compresses and the blink motion on Meibomian glands. A Novel therapeutic approach - Takeshi Kakehata
7. Assessing the feline tear film: What lab data have taught us about the clinical value of STT, PRIT, TFBUT and meibometry - David Maggs
8. Feline tear film dysfunction - some clinical case studies - David Maggs
Abstracts

1. CLINICAL USE OF LISSAMINE GREEN (N. Takiyama), Laboratory of Veterinary Internal Medicine, Department of Veterinary Medicine, College of Bioresource Sciences, Nihon University.

Purpose: To evaluate the clinical use of Lissamine green (LG) vital staining in dogs and cats. Methods: Experiment 1. Local stimulation caused by LG staining was compared with those of rose bengal (RB) and saline. 20 eyes of 10 clinically normal dogs were used. 1 µL of 1, 2, and 5% LG, 1% RB, and saline were administrated. The number of blinking per minute was evaluated. Experiment 2. Staining score of 1 and 2% LG and 2% RB were compared in experimentally corneal epithelium impairment. Experimental corneal epithelium impairment was induced with ethyl alcohol preceded by a topical anesthetic. Staining score was graded according to the Oxford grading scheme. Clinical case. Clinical cases including KCS, FHV-1 keratoconjunctivitis, SPK of dogs and cats stained with 2% LG were evaluated. Results: Experiment 1. The number of blinking were 18.3 ± 6.1 (1% LG), 31.2 ± 12.9 (2% LG), 37.0 ± 12.9 (5% LG), 43.2 ± 12.8 (1% RB), and 18.3 ± 6.1 (saline). Blinking of 5% and 1% RB were significantly increased than those of saline. Experiment 2. In all animals, LG stained area were similar to those of RG. The mean staining scores were 1.8 ± 0.4 (1% LG), 2.2 ± 0.6 (2% LG), and 2.7 ± 0.8 (1% RB).

Clinical cases. All cases of corneal epithelium deficiency were stained with 2% LG as 1% RB. Conclusions: 1 µL of 2% Lissamine green staining would be useful to evaluate ocular surface disorder in dogs and cats.

2. TEAR FILM MUCINS: ROLE OF MEMBRANE ASSOCIATED AND SECRETORY MUCINS (Y Umeda) Yokohama Animal Eye Clinic

Mucins are a very important component of the mucosal barrier of the ocular surface. It was thought that goblet cells were the only type of cell that produced and secreted mucins, but it was recently revealed that corneal and conjunctival epithelial cells also express mucins. Accordingly, mucins are now divided into two categories, which are cell surface-associated (membrane-associated) mucins and small soluble secreted mucins. Membrane-associated mucins play a role as a functional barrier that resists penetration by bacteria and potentially noxious substances (the glycocalyx barrier). Secreted mucins act to trap allergens, debris, and bacteria on the ocular surface, as well as providing lubrication to reduce friction. There are at least three membrane-associated mucins on the human ocular surface, since MUCs 1 and 16 are expressed by corneal epithelial cells while MUCs 1, 4, and 16 are expressed by conjunctival epithelial cells. In addition, MUC5AC is secreted by conjunctival goblet cells. In dogs, we have reported the expression of MUC5AC mRNA in the nictitating membrane and conjunctiva, but there have been no published reports about expression of MUCs 1, 4, and 16 mRNA on the canine ocular surface. There have been many reports that mucin genes are related to ocular disorders like dry eye syndrome in humans. In the future, additional studies of canine mucin genes may be helpful for the management of canine ocular surface diseases.

3. A NOVEL METHOD OF LACRIMAL FUNCTION TESTING: STRIP MENISCOMETRY (Y Kazama, S Wakaiki, H Iwashita, and A Saito) Triangle Animal Eye Clinic

Purpose. Strip meniscometry (SM) is a novel method for quantifying the volume of tear meniscus in humans. We evaluated the applicability of SM in dogs. Methods. We studied 110 eyes of 55 dogs with various ocular diseases. First, we performed a phenol red thread tear test (PRT) followed by a Schirmer tear test (STT) for all dogs. Five minutes later, we performed SM
using a strip meniscometry tube (SMTube®, Echo Electricity Co., Ltd., Japan). Results. The mean value for SM was 9.78±3.68 mm/5 seconds. The SM values showed a positive linear correlation with the STT values (P = 0.597). The SM values also showed a positive linear correlation with the PRT values (P = 0.420). Conclusions. SM is a swift and noninvasive method for evaluating tear meniscus volume for dogs. In eyes with an STT value of 15 mm or greater/60 seconds, SM values were usually greater than 7 mm/5 seconds. Because the SM values of dogs showed a positive linear correlation with STT values and PRT values, we expect SM to see use as a method of testing lacrimal function in dogs.

4. MORPHOLOGICAL OBSERVATION OF CANINE MEIBOMIAN GLANDS USING NON-CONTACT MEIBOGRAPHY (Yasunari Kitamura) Yakumo Animal Hospital

Purpose. To investigate age-related morphological changes in canine meibomian glands using non-contact meibography and to compare meibography findings and histological analysis in dogs. Method. We examined forty-six Shih Tzu dogs (for a total of 88 eyes) with no apparent ocular diseases. The dogs were classified by age into young (less than 3 years), middle-aged (3 to 10 years), and elderly (greater than 10 years) groups. We also examined histological findings using non-contact meibography in four dogs (for a total of four eyes). Result. Typically, our meibography findings reflected four principal results: normal, hyperplastic, atrophy (narrowness and shortening), and loss of glandular structures. The results of non-contact meibography indicated that the “atrophy” and “loss of glandular structures” findings occurred significantly more frequently in the middle-aged and elderly groups than in the young group. In cases where meibography findings indicated narrowing, shortening, and loss of glandular structures, fewer instances of gland lobules and structural collapse were found during histological analysis. Conclusions. Our results indicate that canine meibomian gland morphology tends to change with age and that meibography findings correlate with histological findings.

5. EFFECT OF EYELID MASSAGE AND HOT COMPRESS APPLICATION ON THE OCULAR SURFACE IN DOGS (T. Kakehata) Kakehata Veterinary Hospital

Purpose: To evaluate the effects of prophylactic or therapeutic eye care in the form of eyelid massage and hot compress application on the ocular surface. Methods: The subject animals were dogs that had been diagnosed with ocular surface disease and blink failure of varying degrees. Their owners were instructed to perform at-home eye care (consisting of eyelid massage, hyaluronic acid eye drops, and hot compress application) in accordance with the condition of the ocular surface. To close the eyes of the animal, the eyelids were massaged 10 times 4 times a day. Hyaluronic acid eye drops were administered after massaging the eyelids using a formulation of 0.3% or 0.1%. A commercially available hot compress that is heated in a microwave oven was used to warm the eyelids before the eyelid massage. Case 1: Boston terrier, female, seven years old. Had cataract surgery four years ago. Since blink failure was observed four years after surgery, eye care had been performed every day. Case 2: Pug, male, five years old. Exhibited blink failure, MGD, hyperevaporative dry eye, under entropion, corneal pigmentation, corneal stroma crystal-like deposits, superficial punctate keratopathy (SPK). Eye care was continued for over one year. Case 3: Shih Tzu, female, 10 years old. Despite regular eye care performed in order to treat MGD, the condition of the ocular surface had deteriorated when treatment was paused. Because the animal developed blink failure, MGD, bacterial blepharitis, epiphora, hyperevaporative dry eye, SPK, and keratitis, the eye care regimen was resumed. Results: Case 1: There was generally no difference in transparency of the cornea four years after surgery and before cataract surgery. Case 2: SPK and crystal-like deposits improved compared to about one year ago. Case 3: On Day 7, ocular surface conditions were observed to have improved, and once treatment was resumed, the animal’s condition continued to improve. Conclusions: In the cases that developed ocular surface diseases with MGD and blink failure, eye care can maintain tear film and improve the condition of the ocular surface. In addition, in cases showing no symptoms (short-head breeds and toy breeds in particular), prophylactic daily eye care seemed to be effective.

6. REFERENCE VALUES, INTER-TEST CORRELATIONS, AND REPEATABILITY OF SELECTED TEAR FILM TESTS IN HEALTHY CATS (L Sebbag1, PH Kass1 and DJ Maggs3) 1School of Veterinary Medicine, University of California-Davis, CA, USA.
Purpose. To determine reference values, inter-test correlations, and test-retest reliability of schirmer tear test (STT), phenol red thread test (PRTT), tear film break-up time (TFBUT), tear osmolarity (OcuSense TearLab™), and meibometry (Meibometer® MB560) in cats.

Methods. Each test was performed once in 120 cats and repeated in 40 cats from 4 gender groups aged 0.5-13 years. Correlation between tests was evaluated using Spearman’s correlation. Test-retest reliability was expressed using 95% limits of agreement (LoA) and intraclass correlation coefficients (ICCs) interpreted as very low (0-0.25), low (0.26-0.49), moderate (0.5-0.69), high (0.7-0.89) or very high (0.9-1.00). Results. Data for left and right eyes were not significantly different and were averaged (Table). No significant age effect was noted for any test. Male intact cats had significantly higher PRTT and lower tear osmolarity than other gender groups (P<0.05).

The only significant correlations between tests were PRTT with STT (P=0.017) and with osmolarity (P=0.005).

Conclusions. These reference values will inform studies assessing cats with tearfilm dysfunction. Generally poor correlation among tests suggests that thorough tearfilm analysis requires performance of multiple tests in concert. Relatively poor test-retest reliability should be considered when using repeated tests to monitor tearfilm dysfunction and response to therapy. Supported by The Winn Feline Foundation and the University of California Davis Center for Companion Animal Health. None.

7. SELECTED CASES OF TEAR FILM DYSFUNCTION IN CATS (DJ Maggs) 1School of Veterinary Medicine, University of California-Davis, CA, USA.

Purpose. The surface of the eye is coated by a thin film of tears critical for comfort and vision. Tears improve vision; provide corneal lubrication, nutrition, and protection from infection; and flush debris from the ocular surface. Tear film abnormalities are an important part of many common cat diseases such as dry eye, feline herpesvirus, and Chlamydia and Mycoplasma infections, where they lead to increased discomfort and exacerbate inflammation. Despite this, current understanding of the feline tear film and methods of assessing it are rudimentary.

Methods. Using a number of case illustrations we will demonstrate the importance of tear film to the ocular surface health of cats. Results. Feline herpesvirus (FHV-1) has a serious and long-term effect upon goblet cell density in cats: Mean clinical and histologic conjunctivitis scores peaked 7 days following infection and remained above baseline for 29 days. Simultaneously, mean TFBUT declined rapidly in infected cats up to Day 15, and at Day 29 remained less than baseline, less than for control cats, and below reference range values. Mean STT value for infected cats at Day 29 was increased from baseline but was within the reference range and not different from control cats. Mean goblet cell density (GCD) in infected cats declined precipitously by Day 7 and remained below reference range values at Day 29. Therefore, it seems that FHV-1 induces qualitative tear film abnormalities in experimentally infected cats, as measured by TFBUT and GCD that persists long after apparent clinical resolution of signs using slit-lamp examination. Famciclovir does not diminish this reduction in GCD and concurrent mucinomimetic therapy is advisable. Assessment of TFBUT provides a reasonable clinical estimate of GCD. Conclusions. Mucins ensure that the more watery part of the tear film adheres to the eye and provide broad defenses against ocular surface damage and infection. Decreased mucin levels have been associated with chronic conjunctivitis in cats and a method of assessing goblet cells will permit early recognition of cats with goblet cell deficiency or dysfunction as well as identify cats that will benefit from treatment of mucin deficiency.

Acknowledgments. This work represents the summation of many studies originally led by Drs. C Lim, S Thomasy, and L Sebbag.
were transplanted. Postoperative results were observed. And feline epithelial cell culture sheet will be discussed. **Methods:** A 3 mm in diameter piece of corneal limbal tissue was removed from seven month old female beagle and domestic cats. Corneal epithelial cultivated sheets were created by co-culture with or without MMC-treated 3T3 fibroblasts in dogs and cats. **Results:** Canine corneal epithelial cells from a small piece of corneal limbal tissue produced transplantable confluent cell sheets in culture dishes within 12 days. Without feeder, feline limbal epithelial cells were also cultured successfully applying same method. The cultured cell sheets harvested from the dishes by only lowering the temperature had adequate strength for transplantation. Immuno-histochemical stain, positive k3 and p63 and negative k19 were observed. And histologically, the structure of cell sheet was similar to that of normal corneal epithelium. Since basal surface of cultured cell sheets have intact adhesion molecules such as fibronectin and integrins to attach to the surface of the corneal stroma, cell sheets attached to the cornea in 5 minutes without suture. There was no significant rejection in all cases, though immunosuppressive medication was not used. Ocular surface was reconstructed uneventfully following cultured cell sheet transplantation. Corneal transparency has been maintaining for 4 years. **Conclusion:** The thermal-response dish culture technique has promising applications in the isotransplantation of severe canine and feline ocular surface disorders.

9. **FOUR CASES OF MEDICALLY POOR RESPONSIVE KERATO - Conjunctivitis Sicca in Pembroke Welsh Corgis (A Kubo) Veterinary Eye Care Service, Sapporo, Japan**

**Purpose:** To report on four cases of medically poor responsive keratoconjunctivitis sicca (KCS) in Pembroke Welsh corgis. **Method:** From a total of 33 KCS cases, 4 KCS cases in Pembroke Welsh corgis were assessed. We describe clinical findings, Schirmer tear test (STT) values, and treatment and follow-up. **Results:** All four KCS cases had no history of drug administration or ocular or systemic disease affecting tear secretion. These KCS cases included a bilateral case and three unilateral cases. Ages ranged from 2.2 to 8.7 years. All cases were females, three spayed and one intact. Initial STT values were under 10 mm/min for all cases. In the bilateral KCS case, STT values recovered to the normal range bilaterally until eight months after the administration of 0.2% cyclosporine (CsA) ointment, but STT values fell and did not recover to the normal range with 0.03% tacrolimus (TLM) ointment and 0.2% CsA ointment thereafter. All unilateral KCS cases were treated with 0.2% CsA ointment, and only one case was treated with 0.03% TLM ointment. In no unilateral KCS case did STT values recover to the normal range with the administration of CsA or TLM. **Conclusion:** Pembroke Welsh corgi is a breed that commonly develops KCS, and we found that the characteristics of KCS in the breed include unilateral onset and medically poor response. Based on the breed’s poor response to immunomodulating therapy, the mechanism of KCS in Pembroke Welsh corgis may differ from the immune-mediated KCS often seen in other breeds.

10. **NON-SURGICAL MANAGEMENT OF FELINE CORNEAL SEQUESTRATION (S Wakaiki, Y Kazama, H Iwashita and A Saito) Triangle Animal Eye Clinic**

**Purpose:** To report the outcome of feline corneal sequestration (FCS) cases that were treated non-surgically. **Methods:** Feline patients (60 eyes) diagnosed with FCS between 2006 and 2012 and treated medically were retrospectively analyzed. The regimen included 0.3% hyaluronic acid instillation throughout the treatment period in conjunction with topical ofloxacin ointment, oral doxycycline and/or anti-FHV-1 therapy (topical idoxuridine or oral famciclovir). The outcome was classified as improved (excellent and good responses) or unimproved (unchanged or worsened conditions) based on the degrees of sequestra detachment, re-epithelialization, discoloration and vascularization. **Results:** Fifty-three eyes (88%) were classified as improved. The improvement rate was 96% (26/27) with antiviral therapy and 82% (27/33) without. By 1-month outcome assessment of 37 FCS eyes (2009 – 2012), improvement was observed in 15/18 eyes (89%) with oral famciclovir and 11/19 eyes (56%) without famciclovir. **Conclusions:** FCS was successfully managed with non-surgical hydration therapy in conjunction with antibiotic and/or antiviral therapy. Since the antivirals improved the outcome, involvement of FHV-1 was suspected.

11. **NON-ROTATING DIAMOND BURR DEBRIDEMENT FOR TREATMENT OF**
CANINE SCCEDs (T. Kakehata) Kakehata Veterinary Hospital

Purpose: To evaluate the therapeutic value of non-rotating diamond burr debridement (NRDD), which involves holding a finger shaft portion of a dental diamond burr and scraping the corneal surface without rotating to treat SCCEDs. Methods: NRDD was performed for 16 eyes on 15 dogs that had been diagnosed SCCEDs with medically poor response. NRDD: A topical anesthetic was applied, followed by epithelial debridement with dry cotton-tipped applicators. Debridement of the corneal superficial layer was performed using NRDD. Healing: Epithelialization and non-recurrence for over one month. Evaluation: 1) case information: Breed, age, sex, affected eye, 2) time from onset to NRDD treatment, 3) time from NRDD treatment to healing, 4) number of NRDD procedures until healing, 5) complications of NRDD, 6) follow-up after NRDD. Results: 1) Breed: 14 purebred cases, 1 mixed-breed case. Age: Average 8.5 years (5 to 12 years). Sex: 9 male cases, 6 female cases. Affected eye: Right eye only in 5 cases, left eye only in 9 cases, both eyes in 1 case. 2) Average 33 days (7 to 180 days). 3) 88% healed (14 of 16 eyes) in an average of 8.4 days (5 to 14 days); 12% did not heal (2 of 16 eyes). 4) Average: 1.2 (for 14 eyes that healed). Two non-healed eyes did not heal in the end despite two adjunctive NRDD procedures within two weeks of the initial NRDD. 5) In all cases, eye pain, blepharospasm, excessive blinking, epiphora, ocular discharge, and congestion of various degrees were observed. Additional therapy included use of an Elizabethan collar as appropriate, topical regulation with a paralysis agent, topical antibiotic, hyaluronic acid drops, topical autoserum, and systemic administration of NSAIDs and/or antibiotics. 6) No recurrence was observed in 14 cases after treatment with NRDD. Time to follow-up averaged 16 months (2 to 23 months). One case that did not respond to NRDD was successfully treated with grid keratectomy. In all cases, the site of corneal opacity was positive for fluorescein stain, and a halo was observed around the defect where fluorescein diffused under the epithelium. In addition, the epithelium surrounding the opacity was loose, and hyperemia in the sclera and deep corneal stromal vascularization were also observed. Conclusions: NRDD is recommended as an effective primary therapy for canine SCCEDs. NRDD is considered relatively non-invasive and is a simple and safe treatment compared with other surgical treatments.

12. THREE CASES OF STEROID-RESPONSIVE CORNEAL EPITHELIAL DEFECTS IN FRENCH BULLDOGS (S Wakaiki, Y Kazama, H Iwashita, and A Saito) Triangle Animal Eye Clinic

Purpose. To describe three cases of suspected steroid-responsive corneal epithelial defect. Case Report. All three cases were French bulldogs aged 6 to 11 years. The left eye was affected in Cases A and B, while both eyes were affected in Case C. Ocular exams found no abnormality in menace response, dazzle reflex, light reflex, intraocular pressure, red phenol thread test, or Schirmer tear test in any of the cases. Although neutrophil-dominant suppurative inflammation was observed by corneal cytology, Cases A and C were negative for bacterial culture. In all cases, the site of corneal opacity was positive for fluorescein stain, and a halo was observed around the defect where fluorescein diffused under the epithelium. In addition, the epithelium surrounding the opacity was loose, and hyperemia in the sclera and deep corneal stromal vascularization were also observed. Results. All three cases showed corneal ulcers that were indicative of SCCEDs that fail to resolve through normal wound-healing processes. However, inflammatory signs in the sclera and cornea, for example scleral hyperemia and deep vascularization into the corneal stroma, were also prominent characteristics and responded well to steroid therapy. Conclusions. It is not understood how scleritis or interstitial keratitis causes corneal ulcers. However, we speculate that when inflammation spreads into the corneal stroma, it may affect corneal epithelial integrity by disturbing subepithelial adhesion.

13. CORNEAL INCLUSION CYST IN DOGS: A REVIEW (Yoshitaka Kobayashi) DVMs Animal Medical Center Yokohama

Corneal inclusion cyst is relatively rare in dogs but may impair vision. A traumatic origin is often suspected, and may also be congenital or develop following corneal surgery. In this review, the clinicopathologic features of corneal inclusion cysts are detailed, with emphasis on the pathogenesis related to keratotomy as a treatment of SCCEDs.

14. MODIFIED MEDIAL CANTHOPLASTY FOR REDUCTION OF OCULAR SURFACE EXPOSURE AND LACRIMAL EFFUSION IN DOGS (S Wakaiki, Y Kazama and H Iwashita and A Saito) Triangle Animal Eye Clinic

Purpose. To report the detailed canine medial canthus anatomy and key steps in modified medial canthoplasty (MMC). Methods. Intraoperative videos were used to evaluate
anatomical aspects of MMC and compared with histopathological findings. Pre- and post-operative slit-lamp microscope videos were used to evaluate the outcome of MMC. **Results.** Three key anatomical structures were revealed: 1) at the medial palpebral commissure, the lower eyelid was located anterior relative to the upper eyelid, which was tugged toward the lacrimal bone; 2) on the skin surface, the superior lacrimal punctum was located more medially than the inferior punctum, but at the conjunctival level, the distance from the commissure to the superior punctum was equal to that to the inferior punctum; and 3) the deep head of the upper palpebral orbicularis oculi muscle ran near the lacrimal canaliculus and was attached sturdily to the lacrimal bone via the medial palpebral ligament. Histopathologically, the deep head was observed as a thick muscular bundle near the upper canaliculus. By post-operative slit-lamp videos, improvements in medial lower entropion and anterior shifting of the eyelids were confirmed. **Conclusions.** The upper eyelid was tagged toward the lacrimal bone by the deep head of the orbicularis oculi. In MMC, therefore, two key steps are 1) separation of the origin of the deep head, including a part of the ligament, at the lacrimal bone margin from the midline toward the upper punctum and 2) resection of the deep head where it transitions to the ligament while leaving the upper canaliculus intact. These steps lead to reduction of the entropion and anterior shifting of the medial canthus.

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The conference welcome reception, nearby at “The Great Hall” was a perfect start and an opportunity to gather with old friends and meet new ones.

The Continuing Education Day with its three outstanding and experienced clinicians (Drs. Adolfo Guandalini, Teresa Peña Giménez, and Nils Wallin Håkansson) was valuable for both the general practitioner and diplomate, and I picked up several useful tips for my practice. I found the scientific sessions on Friday and Saturday to be of very high quality with many cutting-edge presentations.

I always enjoy the tradition of the conference dinner in a site that exhibits the culture of the host city, this year at the historic “Shakespeare’s Globe.”

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From the
ECVO MEETING, LONDON, UK
15th – 18th May, 2014

Congratulations to the ECVO and its leadership team of Gill McLellan, Charlotte Keller and Claudio Peruccio for an outstanding Congress recently held in London. I was thoroughly impressed with all aspects of the meeting. The venue at a conference center adjacent to Westminster Abbey in the heart of London was fabulous.
And finally, the masterclass on Sunday was my personal highlight, with an accomplished set of faculty in the field of corneal surgery (including the renowned Professor Dua) sharing their expertise and knowledge in this important area.

Overall, I would rank the 2014 ECVO Congress as one of the finest scientific conferences I have attended in many years. I am very much looking forward to Helsinki in 2015.

Michael Davidson, Diplomate ACVO

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**Coming Events**

4th Congress of the Asian Society of Veterinary Ophthalmology
Taipei, Taiwan
August 30 – September 1, 2014

**Conference Scientific Program**

**Day 1**
30 August 2014 at Conference Center

08.30 – 09.00 Registration  
**Chair: Dr. Naoaki Takiyama (Japan)**
09.00 – 09.30 Optical coherence tomography (OCT) in veterinary ophthalmology Dr. Dong Boom Ji (Korea)
09.30 – 10.00 Diagnosis and treatment of uveitis Dr. Kazutaka Kanai (Japan)
10.00 – 10.30 Clinical characteristics of glaucoma in Shiba Inu Dr. Kumiko Kato (Japan)
10.30 – 11.00 Coffee break with poster presentations and exhibitors  
**Chair: Dr. Takashi Hasegawa (Japan)**

11.00 – 11.30 Medical management of neurogenic keratoconjunctivitis sicca  
(KCS) Dr. Sukjong Yoo (Korea)
11.30 – 12.15 Medial canthoplasty for epiphora eyes in brachycephalic breeds of dogs Dr. Akihiko Saito (Japan)
12.15 – 12.30 Glycerine- preserved corneal grafting in dogs and cats Dr. Nobuyuki Kanemaki (Japan)
12.30 – 14.00 Lunch break with poster presentation and exhibitors  
**Chair: Prof. Kangmoon Seo (Korea)**
14.00 – 14.30 Tips for corneal surgery Dr. Michael Chang (USA)
14.30 – 15.30 Why a corneal ulcer does not heal ? Dr. Michael Chang (USA)
15.30 – 16.00 Coffee break with exhibitors  
**Chair: Prof. Chung-Tien Lin (Taiwan)**
16.00 – 17.30 Feline ocular disorders Dr. Michael Chang (USA)

**Poster Presentation:** Set up by 9am, and present on the break time in the morning and lunch time. Tear down by 5pm

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**DAY 2**
31 August 2014 at Conference Center

08.30 - 09.00 Registration  
**Chair: Dr. Tasavarin (Thailand)**
09.00 - 10.00 Applied anatomy of the fundus – making sense of what I see in the ophthalmoscope Prof Ron Ofri (Israel)
10.00 - 10.30 Doctor, will my dog see again? Examination, assessment and differential diagnosis of the blind patient Prof Ron Ofri (Israel)
10.30 – 11.00 Coffee break with exhibitors  
**Chair: Dr. Kumiko Kato (Japan)**
11.00 – 11.30 Why do our patients go blind? Inherited retinal diseases Prof Ron Ofri (Israel)
11.30 – 12.30 Why do our patients go blind? Acquired retinal diseases Prof Ron Ofri (Israel)
12.30 – 14.00 Lunch break with exhibitors (also AISVO Board Meeting)  
**Chair: Dr. Shiuan-Long Lin (Taiwan)**
14.00 – 14.45 Canine Glaucoma Dr. Michael Chang (USA)
14.45 – 15.30 Red eye, what’s next ? Dr. Michael Chang (USA)
15.30 – 16.00 Coffee break with exhibitors  
**Chair: Dr. Nobuyuki Kanemaki (Japan)**
16.00 – 16.45 Eye is cloudy eye, then what? Dr. Michael Chang (USA)
16.45 – 17.30 Tips and complications of phacoemulsification/lens extraction surgery Dr. Michael Chang (USA)
18.00 – 20.30 Conference Dinner
Additional Workshop/Hand-on Wet lab
1 September 2014
"Practical ophthalmic examination techniques: Electroretinography, Ophthalmoscopy, Fundus Photography, Ophthalmic Ultrasonography, Slit-lamp biomicroscopy"
at the National Taiwan University Veterinary Hospital, Taipei

08.30 – 09.00 Registration
09.00 – 10.15 Lab-related lecture: Electroretinography  Prof. Ron Ofri
10.15 – 10.30  Coffee break
10.30 – 12.30  Lab: Ophthalmoscopy, Fundus photography, Electroretinography Prof. Ron Ofri, Dr. Naoaki Takiyama and tutors
12.30 – 13.30 Lunch break
13.30 – 14.30 Lab-related lecture: Ocular Ultrasonography, Slit-lamp Biomicroscopy
  Prof. Kangmoon Seo and Dr. Tasavarin
14.30 – 14.45 Coffee break
14.45 – 17.00 Lab: Ocular Ultrasonography, Slit-lamp Biomicroscopy
  Prof. Kangmoon Seo, Dr. Tasavarin and tutors

More information at the AiSVO website: www.aisvo.org

SSVO - ESVO Meeting
Malmö, Sweden, 4-7 September 2014

Dear friends and colleagues,
The Swedish Society of Veterinary Ophthalmology (SSVO) and European Society of Veterinary Ophthalmology (ESVO) cordially invite colleagues with an interest in Veterinary Ophthalmology to our Nordic Meeting in Malmö 4-7 September 2014.
Invited speakers are Cynthia Cook, Kristine Bastholm Jensen and Nils Wallin Håkansson.

The topics are:
Normal Ocular Development… The How? Cynthia Cook
Congenital Ocular Abnormalities… The Why? Cynthia Cook
Ocular Disorders Associated with Pigmentation Defects...Is it Normal? Cynthia Cook
Controversies in the Assessment of Congenital Ocular Abnormalities…Does it Matter? Cynthia Cook
Normal variations of lens and vitreous. Nils Wallin Håkansson
Ocular manifestations of systemic diseases. Cynthia Cook, Kristine Bastholm Jensen

There will be a workshop on Sunday, September 7 arranged by ESVO and this year we are going to increase our knowledge in ocular ultrasonography under the guidance of Ernst-Otto Ropstadt from Norwegian School of Veterinary Science.

For more information: www.ssvo.se
www.esvo.org

The registration is from April the first to 31 of July

Best regards from the organizing committees.
SSVO board: Agneta Weidman, Ida Möller, Inger Kjellander, Gertrud Burman
ESVO board: Jiri Beranek, Esmeralda Delgado, Mike Woods, Thomas Larsen

The next
Interim Meeting of the ANZCVS Ophthalmology Chapter
Friday 5th to Sunday 7th September 2014

Final Notice – the Interim Meeting of the ANZCVS Ophthalmology Chapter is almost here! As an adjunct to our AGM and Scientific Meeting held during the College’s Science Week held on the Gold Coast in early July, for the last five years the Ophthalmology Chapter of the Aust/NZ College of Veterinary Scientists has staged a much less formal but no less instructive Interim Meeting, held in a remote location or exotic setting over a three day weekend – and this year’s chosen destination promises to be our best ever! Year by year, our excellent guest speakers plus a small handful of fly-in overseas visitors have used these events as an excuse to visit ‘down under’,
quietly revelling in the opportunity to visit some
very special places in the unspoilt natural world,
plus the chance to mix with our own very relaxed
group of dedicated veterinary ophthalmologists.

This year the organisers will be taking us
somewhere entirely different, for an Interim
Meeting that promises to be the best yet – and
with our guest speaker none other than the
inspired academic Ivan Schwab – Professor of
Ophthalmology at the UC Davis School of
Medicine and the author of landmark studies on
the eye in the evolution of living species. Ivan
Schwab is an inspirational teacher and a
captivating speaker, able to expand with some
amazing facts to add to the fascination we all felt,
reading the Comparative Ophthalmology
chapters in Duke Elder for the first time. He will
have us mesmerised by his knowledge of all eyes
– from Trilobytes to Tetrapods, from Cambrian
era to Computer era.

Professor Schwab is perhaps best known as the
author of the wonderful book ‘Evolution’s
Witness – a natural history of the evolution of the
eye’ and we understand a lot of his planned
presentation material will follow this theme. He
sees not only the physical adaptations between
diverging and developing species but also the
surprising and quirky functional ones, as his
treatise ‘Why Woodpeckers don’t get Headaches’
so clearly demonstrated – winning the (almost as
famous) Ig Nobel Prize in 2006.

If it is your intention to come and join with us in
September, you should contact the Meeting
Organiser Dr Martyn King in Perth
martyn@rivergumvet.com.au so that he can give
you the final details on local transport options and
possible add-on tours, etc.

Then phone +61 (0)8 9192 0400 for all
accommodation enquiries at the Resort, quoting
Australian College – Vet Ophthalmology.
Alternatively, contact the CABLE BEACH CLUB
RESORT & SPA directly via their website, or
Email : conference@cablebeachclub.com

WHEN: Friday 5th to Sunday 7th September
2014. Broome may be remote, but it is well
serviced with direct flights from Perth, Adelaide,
Melbourne, Sydney and Brisbane.

Bruce Robertson (on behalf of the ANZCVS
Chapter Interim Meeting organisers)

Where: CABLE BEACH CLUB RESORT & SPA
at Broome, Western Australia.

Broome has been a multicultural ‘melting-pot’
since the romantic days of the early pearling
luggers, and is the gateway to the absolutely
spectacular Kimberley region of North West
Australia.
The American College of Veterinary Ophthalmologists invites you to attend its 45th Annual Conference, providing high quality CE for veterinarians interested in ophthalmology, October 8 - 11, 2014 in Fort Worth, Texas.

Approximately 18-20 credits in total are available for general registration.

Courses include: over 100 cutting edge scientific abstract presentations and discussion, 50-80 posters, Workshop on "Veterinary Ophthalmology in Exotics" and networking opportunities for prospective residents.

Also included: a Welcome Reception, evening socializing dinner, photography competition, Fun Run, resident manuscript awards and exhibit hall.

Optional separate fee courses include the following: Genetics Symposium on "Molecular Genetics and Veterinary Ophthalmology: How to find the Genes, Interpret the Results and Provide Advice" (6 addl CE), Comparative Ocular Surface Disease Workshop (4.5 addl CE), a Practice Management course on "Buying and Selling a Practice" (3 addl CE), and a specialty day of ophthalmology for General Practitioners (8 addl CE).

General registration includes proceedings (book or USB Drive), CE certificate (18-22 hours; additional hours for separate fee courses), participation in the Welcome Reception, access to all general sessions and topic-specific sessions, access to the exhibit hall, breakfasts and breaks. Online access to presentations for 6 months.

Plan to arrive early or leave late and take advantage of the Omni Fort Worth Hotel's reduced rates for extended stays.

For schedule and registration information please visit  www.ACVOconference.org  Registration closes September 1st.

Program
ACVO is putting together the details on a practice management meeting, memorial speaker, residents’ workshop, poster session, general practitioners’ course, Friday night event and optional lab(s). Content, speakers, biographies and scheduling will be available May 1st and updated daily via the above referenced website. Searchable recordings of the 2011, 2012 and 2013 conference presentations are available for purchase, free access is provided to ACVO members. Access is also available solely for the general practitioners' course recordings for a very low fee.

Location
The meeting will be held at the newly built, beautiful OMNI hotel in Ft. Worth, Texas. The facility is located centrally in this incredibly friendly Western town. We will promote some fun things to do in the area via the website, to help you get a little flavor of the ‘Old SW’. Airlift is easy, arrival is through the Dallas/Ft. Worth International Airport, a major airline hub in the USA.
Please join us for the second meeting of those passionate about ocular surface disease. Following a very successful initial meeting in Japan in March of this year, we would like to invite all with an interest in the eyelids, tear film, cornea and conjunctiva. Our featured keynote speaker – Dr. Bernardo Yáñez-Soto works in the dynamic Murphy/Russell comparative vision science laboratory at UC Davis where he interacts on a day to day basis with veterinary ophthalmologists. He knows what interests us and what will make our patients better, and yet he brings a chemical engineer’s perspective to the tear film. After his keynote lecture you will never think about the tear film in the same way again. For a teaser into the depth of his knowledge see his latest review article - *Interfacial Phenomena and the Ocular Surface*.

Following Dr. Yáñez-Soto’s keynote address, we will have a limited number of clinical and research abstracts intended to promote lively discussion among our group of ophthalmologists and vision researchers interested in this critical region of the eye. The deadline for abstract submission is midnight Pacific Summer time August 1, 2014. Please see below for the official call for abstracts.

**Tentative Schedule**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:30-8:00</td>
<td>Breakfast</td>
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<tr>
<td>8:00 - 8:15</td>
<td>Welcome</td>
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<td>8:15 - 9:15</td>
<td>Key note lecture:</td>
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<td>“Interfacial Phenomena and the Ocular Surface”</td>
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<td>9:15 - 9:30</td>
<td>Abstract # 1</td>
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<td>9:30 - 9:45</td>
<td>Abstract # 2</td>
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<td>9:45 - 10:00</td>
<td>Abstract # 3</td>
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<tr>
<td>10:00 - 10:30</td>
<td>Coffee Break</td>
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<tr>
<td>10:30 - 10:45</td>
<td>Abstract # 4</td>
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**Keynote Speaker: Dr. Bernardo Yáñez-Soto**

Bernardo Yáñez-Soto is a Postdoctoral Researcher in the Department of Surgical and Radiological Sciences at the University of California, Davis. Bernardo finished his undergraduate studies at the University of Mexico, and worked for over ten years in the leather manufacturing industry. After that, he pursued his academic passion and completed a Ph.D. in Chemical and Biological Engineering at the University of Wisconsin-Madison. His research interests lie in the area of biomaterials and tissue engineering. During his Ph.D. he fabricated polymeric basement membranes for the corneal epithelium incorporating biomimetic characteristics and used them to investigate the role of biophysical cues on corneal epithelialization and wound healing. As a chemical engineer with interfacial engineering expertise, he decided to focus on the intricate relation between the tear film and the ocular surface, and the development of new therapies and strategies to treat ocular surface diseases through the engineering of the epithelial surfaces for his postdoctoral research. Bernardo is the father of three daughters under four, which has enhanced his expertise in tears. Bernardo is also an avid runner and triathlete.

**Keynote Lecture:**

**INTERFACIAL PHENOMENA AND THE OCULAR SURFACE**

The tear film is a complex system whose stability depends on the interrelation of its multiple interfaces. Disruption in the biological, molecular and interfacial properties could lead to ocular surface disorders such as dry eye disease. However, while the biological and molecular characteristics of the ocular surface are widely
investigated, there is a lack of studies on the role of the interfacial phenomena in the stability of the tear film. The engineering of the interfacial properties of the ocular surface could lead to the development of new therapeutics for the treatment of ocular surface disorders.

**Call for Abstracts and Submission Instructions**

**Step 1:**
Review abstract formatting requirements. (These are the same as for the ACVO main meeting abstracts)

**Step 2:**
Submit abstract as Word document via email to David Maggs before midnight Pacific Summer Time on August 1st, 2014.

**Note:** An abstract exceeding 250 words may constitute prior publication and preclude review of the paper by scientific journals including JAVMA/AJVR/VO. It is recommended that submissions do not exceed this limitation. Please check with the appropriate journal regarding their restrictions. This statement serves as notice to anyone submitting an abstract to the ACVO.

**Step 3:**
Complete conference online registration form (be sure to select optional registration for the Comparative Ocular Surface Disease Workshop) (Abstract presenters must be registered for the conference in order to present, but may wait until notification of acceptance to submit a meeting registration form if preferred.)

The presenting author will be notified of acceptance of the abstract via email by August 20th, 2014.

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Dear colleagues,

The 20th Eurocongress of the Federation of European Companion Animal Veterinary Associations (FECAVA) and the 60th Congress of the German Small Animal Veterinary Association will take place from November 6 to 9, 2014, in Munich, Germany.

The scientific programme will meet the needs of today’s small animal veterinarians. In addition to the main lectures, seminars and practical labs will give opportunity for in-depth education.

At the congress, ophthalmology will be a topic and a seminar on exotic animal ophthalmology will be given. Furthermore, a veterinary behaviour meeting and a meeting of the German Veterinary Dental Association will be offered.

An attractive social programme in Munich, the "Metropolis with Heart", in close proximity to lakes, castles and the Alps will be waiting for you.

We would be happy to share this extraordinary experience with you! Please find all information on the congress online:

http://www.fecava2014.org/index.php?id=926&L=1

Please feel free to communicate this to as many potential congress participants as possible. We look forward to meeting you in Munich!

With kind regards,

Your team from the
German Veterinary Medical Society (GVMS)
DVG Service GmbH
Friedrichstrasse 17, 35392 Giessen
Germany
phone +49 641 24466
Fax +49 641 25375
www.fecava2014.org
www.dvg.de
info@dvg.de

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**INTERNATIONAL CONGRESS OF VETERINARY SURGERY**

**13-16 November 2014**

**Bento Gonçalves, RS, Brazil**

**Thursday November 13**

**EYELID SURGERY (13:00 - 14:00)**

Cherry eye - how to approach...
José L. Laus (UNESP-JABOTICABAL) 15 min
Friday November 14

CORNEAL SURGERY (13:00 – 14:00)
Amniotic membrane in veterinary ophthalmology
João A.T. Pigatto (UFRGS-RS) 15 min.
Corneal transplantation and artificial cornea
Sergio Kwitko (UFRGS - RS) 15 min.
Endothelial transplantation
Sergio Kwitko (UFRGS - RS) 15 min.
Discussion 15 min.

CATARACT SURGERY (14:01 – 15:00)
Training in microsurgery
Ney L. Pippi (UFMS-RS) 15 min.
Selection of patients
José L. Laus (UNESP-JABOTICABAL) 15 min.
Cataract surgery - Clinical cases
João A.T. Pigatto (UFRGS-RS) 15 min.
Discussion 15 min.

CATARACT SURGERY (15:01 – 16:00)
Phacoemulsification - difficult cases
Sergio Kwitko (UFRGS - RS) 15 min.
Complications during phacoemulsification
João A.T. Pigatto (UFRGS-RS) 15 min.
Complications after phacoemulsification
Adriana L. Teixeira (PROVET - SP) 15 min.
Discussion 15 min.

ANGIOGRAPHY (16:31 – 17:00)
Fluorescein angiography
Manuel Villagrara - Madrid

Laser in veterinary ophthalmology (17:31 – 18:30)
Manuel Villagrara – Madrid

RETINAL SURGERY (18:31 - 19:30)
Retinal Surgery Manuel Villagrara – Madrid
SOVI
Italian Society of Veterinary Ophthalmology
Winter Meeting 2014, November 29th – 30th
Cremona, Palazzo Trecchi

Language: Italian
Main topic: Diabetes

Saturday, November 29th
The diabetic patient: internal medicine perspective (F. Fracassi)
Ocular surface diseases in diabetic patients (M. Crasta)
Lens disease in diabetic patients (C. Peruccio)
Diabetic retinopathy in diabetic dogs (C. Peruccio)
From histology to etiopathogenesis: the diabetes under the microscope (C. Giudice)

Sunday, morning, November 30th
Scientific Session – Short communications and case reports

10TH INTERNATIONAL CONGRESS OF CORNEAL CROSS-LINKING
Communicating and Understanding
Cross-linking Technology
Zurich, Switzerland
December 5 - 6, 2014

Since 2005, the annual congress has grown from only a handful of participants to about 200 participants representing more than 35 countries. The purpose of this meeting is to disseminate information concerning the uses of this treatment method by providing a broad scope of understanding. From a general introduction to the field to debating the latest research, the congress’ aim is to allow each participant to be able to learn and apply the teachings/information in his/her practice and discuss these with other colleagues and researchers.

For more information: http://www.cxl-congress.com/

NEVOS December 6, 2014
New York City

The eighth annual meeting of the North East Veterinary Ophthalmology Society (NEVOS) will be held at the Animal Medical Center in New York City on Saturday December 6, 2014. Come join us for a day of presentations and discussions about various topics in veterinary ophthalmology. For more information, please contact Alexandra van der Woerdt at: Sandra.vanderwoerdt@amcny.org

2015 ECVO MEETING
HELSINKI, FINLAND
28th – 31st May, 2015
Main topic:
Medical Treatment for Ocular Disease

An invitation to attend the ECVO Meeting

Dear colleagues and friends,

We wish to welcome you all, on behalf of ECVO, to our 2015 Annual Scientific Meeting in Helsinki, Finland.

Plan to join us May 28-31; it will be a good occasion to learn and to meet old and new friends from all over the world.

The central theme of our 2015 scientific programme is “Medical treatment for ocular disease”.

Three outstanding invited speakers are refining the Continuing Education and Masterclass programmes:

- Alison Clode, DVM, DACVO
The Continuing Education programme focuses on classical treatment, controversies, dilemmas, advances, pearls and perils in treatment of four main conditions: corneal ulcers, feline herpes, uveitis and glaucoma.

The Masterclass, with the same three speakers, is on ocular barriers, drug delivery in the anterior and posterior segments, side effects, safety and efficacy of therapies delivered to the eye and “Should we be using these drugs” according to evidence-based medicine.

The joint “ECVO State of the Art lecture/ISVO Magrane Memorial Lecture”, in the main programme, is given by Prof. Joan Stjernschantz, a key figure in the development of latanoprost.

The biennial ISVO meeting will also occur in conjunction with the ECVO meeting on this occasion.

We look forward to seeing you in Helsinki next year!

Claudio Peruccio (ECVO President)
Ron Ofri (ECVO Scientific Committee Member)
Peter Bedford (ECVO Planning Committee Chair)

Preliminary Programme

Thursday May 28, 2015:

Continuing Education
10.30 – 14.45, Lunch break at 12.00
Medical Treatment for Ocular Disease

Speakers:
- Alison Clode
- Gigi Davidson
- Alain Regnier

10.30 – 11.15
Classical treatment of corneal ulcers (A. Clode)
Controversies and dilemmas in treatment of corneal ulcers (A. Regnier)

Friday May 29, 2015: Main Program

08.30 Opening
08.45 Resident’s Forum Session
10.00 Coffee Break
10.30 Scientific Session
12.00 Lunch
13.00 Poster Session & Industrial Exhibition
14.00 Scientific Session
15.30 Coffee Break - Poster Session & Industrial Exhibition
16.00 Hereditary Eye Diseases Session
18.00 End of the afternoon session
20.00 Social Dinner

Saturday May 30, 2015

08.30 Scientific Session
10.00 Coffee Break - Poster Session & Industrial Exhibition
10.30 The State of the Art Lecture / The ISVO Magrane Memorial Lecture* “From PGF2a-Isopropyl Ester to Latanoprost: The development of Xalatan, from lab bench to patient bedside”.
Prof. Joan Stjernschantz, Department of Neuroscience, Uppsala University, Sweden
12.00 Lunch
13.00 Poster Session & Industrial Exhibition
14.00 Scientific Session
15.30 Coffee Break - Poster Session & Industrial Exhibition
16.00 Scientific Session
16.45 Closing and awards
17.30 End of the ECVO Annual Meeting

Sunday May 31, 2015

Masterclass, Marina Congress Centre 08.00-12.30
Medical Treatment for Ocular Disease

Speakers:
- Alison Clode
- Gigi Davidson
- Alain Regnier

- What’s stopping you? Barriers in drug delivery to the eye (A. Regnier)
- Deliverance 1. Drug delivery to the anterior segment (A. Clode)
- Deliverance 2. Drug delivery to the posterior segment (A. Clode)
- Careful! Systemic side-effects of ocular drugs (A. Regnier)
- First do no harm: factors influencing safety and efficacy of therapies delivered to the eye (G. Davidson)
- Should we be using these drugs? Evidence-based medicine? A. Clode, G. Davidson, A. Regnier)
- How to “vet” a compound when a verified compounding formula is not available (G. Davidson)

For more information: [www.ecvoconference.org](http://www.ecvoconference.org)

SAVE THE DATES – SEE YOU IN HELSINKI NEXT YEAR!
**Useful links**

International Society of Veterinary Ophthalmology (ISVO): [www.isvo.info](http://www.isvo.info)

American College of Veterinary Ophthalmologists (ACVO): [www.acvo.org](http://www.acvo.org)

European College of Veterinary Ophthalmologists (ECVO): [www.ecvo.org](http://www.ecvo.org)

European Society of Veterinary Ophthalmology (ESVO): [www.esvo.org](http://www.esvo.org)

Japanese Society of Comparative and Veterinary Ophthalmology (JCVO): [www.jscvo.jp](http://www.jscvo.jp)

British Association of Veterinary Ophthalmologists (BrAVO): [www.bravo.org.uk](http://www.bravo.org.uk)

European School for Advanced Veterinary Studies: [www.esavs.net](http://www.esavs.net)

British Small Animal Veterinary Association: [www.bsava.com](http://www.bsava.com)

International Veterinary Information Service (IVIS): [www.ivis.org](http://www.ivis.org)

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**NOTE FROM THE ISVO TREASURER**

“To join ISVO, please apply online at the ISVO website ([www.isvo.info](http://www.isvo.info)). The current dues are US$25 per annum.

Sandra van der Woerdt, Secretary-Treasurer ISVO

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**ISVO will continue to email The Globe to members at least three times per year**