Tear Film & Ocular Surface Society

6th International Conference on the Tear Film and Ocular Surface: Basic Science and Clinical Relevance

Conference Program

Florence, Italy
September 22-25, 2010

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Preface

During the past several decades, a significant, international research effort has been directed towards understanding the composition, function and regulation of the preocular tear film. This effort has been motivated by the recognition that the tear film plays a critical role in maintaining corneal and conjunctival integrity, protecting against microbial challenge and preserving visual acuity. In addition, research has been stimulated by the knowledge that alteration or deficiency of the tear film, which occurs in innumerable individuals throughout the world, may lead to desiccation of the ocular surface, ulceration and perforation of the cornea, an increased incidence of infectious disease, and potentially, pronounced visual disability and blindness.

To promote further progress in this field of vision research, the 6th International Conference on the Tear Film & Ocular Surface: Basic Science and Clinical Relevance will be held at the Firenze Fiera, Florence, Italy, from September 22 to 25, 2010. This Conference, which is sponsored by the Tear Film & Ocular Surface Society (TFOS; www.TearFilm.org) is designed to assess the current knowledge and 'state of the art' research on the structure and function of tear film-producing tissues, tears and the ocular surface in both health and disease. The goal of this Conference is to promote an international exchange of information that will be of value to basic scientists involved in eye research, to clinicians in the eye care community, and to pharmaceutical companies with an interest in the treatment of tear film or ocular surface disorders.

To help achieve this objective, numerous scientists, clinicians and industry representatives from many countries, including Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, China, Croatia, Czech Republic, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Italy, Japan, Netherlands, New Zealand, Singapore, Slovenia, South Korea, Spain, Sweden, Switzerland, Thailand, Turkey, United Arab Emirates, United Kingdom and the United States have registered as active participants in this Conference.

This book contains the scientific program, as well as the abstracts of the keynote, oral and poster presentations, of this TFOS Conference.

David A. Sullivan

Acknowledgments

The Tear Film & Ocular Surface Society expresses its appreciation to Sabrina Zappia and CITYNet (www.citynetonline.it), Julie Karimi and Jaka Congressi (www.jaka.it), Haydée Marangoni and h.design, and the Managers of Firenze Fiera, Stazione Leopolda, Lungarno Hotels, Il Convivium Firenze and Context Travel for their assistance with, and/or contributions to, this Conference.

Recognition

The Tear Film & Ocular Surface Society congratulates the following individuals, who were the recipients of the Conference Travel Awards: Philipp Ackermann, Danielle Augustin, Colin Cerretani, Laura Contreras-Ruiz, Thomas Fuchsluger, Fabian Garreis, Anna Guzman-Aranguez, Maria Markoulli, Maryam Mokhtarzadeh, James Mun, Kyung-Sun Na, Jose Ricardo, Stefan Schrader, Yuichi Uchino and Eric Xiaojia Wei.

Thursday, September 23, 2010

Opening Remarks

8:00 *Stefano Bonini (Italy)*

Claes H. Dohlman Conference Address

Chairperson – Stefano Bonini (Italy)

8:05 THE OCULAR SURFACE IN HEALTH AND DISEASE. Shigeru Kinoshita. Kyoto Prefectural University of Medicine, Kyoto, Japan

SESSION I

Sugar Can Be Good for You: Glycobiology & Mucins

Chairpersons - Pablo Argueso (USA), Monica S Berry (UK) & Anna Guzman-Aranguez (Spain)

8:30 **Keynote Address:** REPROGRAMMING OF CELLULAR TRANSCRIPTION BY SIGNALING THROUGH MUC1. Michael A. Hollingsworth, Michelle E. Behrens, Samuel J. Erb. Eppley Institute for Research in Cancer, Department of Biochemistry and Molecular Biology, University of Nebraska Medical Center, Omaha, NE, USA

8:55 **Keynote Address:** ROLE OF SPDEF IN PULMONARY GOBLET CELL DIFFERENTIATION. Tom Korfhagen, Perinatal Institute, Section of Neonatology, Perinatal and Pulmonary Biology, Cincinnati Children's Hospital, Cincinnati, Ohio

9:20 TEAR FILM: EPITOPES FACING THE OUTSIDE WORLD. Sarah Baos[1,2], Terence McMaster, David Phillips, Monica Berry[1] [1]HH Wills Physics Laboratory and [2]Academic Unit of Ophthalmology, University of Bristol, Bristol, UK

9:35 CELL SURFACE MUCIN O-GLYCANS IMPAIR NANOPARTICLE DELIVERY TO CORNEAL EPITHELIAL CELLS. A. Guzman-Aranguez,[1] J. Pintor,[1] P. Argüeso.[2] [1]Department of Biochemistry, School of Optics, Complutense University, Madrid, Spain; [2]Schepens Eye Research Institute and Department of Ophthalmology, Harvard Medical School, Boston, MA, USA

9:50 THE MECHANISM OF MUCIN SECRETION FROM ISOLATED RABBIT CONJUNCTIVAL TISSUE BY DIQUAFOSOL. Yuko-Takaoka Shichijo, Tadahiro Murakami, Atsuyoshi Dota, Katsuhiko Shinomiya, Osamu Katsuta, Masatsugu Nakamura. Research and Development Division, Santen Pharmaceutical Co., Ltd., Nara-Osaka, Japan

10:05 **Poster Session I (with Coffee & Tea)**

International Dry Eye WorkShop: Updates

Chairpersons - Donald R. Korb (USA), Kyung-Sun Na (South Korea) & John E. Sutphin (USA)

10:40 **Keynote Address:** RECENT ADVANCES IN DEFINING AND CLASSIFYING DRY EYE DISEASE. A. J Bron. Nuffield Laboratory of Ophthalmology, University of Oxford, UK

10:55 **Keynote Address:** INTERNATIONAL DRY EYE WORKSHOP: UPDATE ON THE EPIDEMIOLOGY OF DRY EYE. Kelly K. Nichols, OD, MPH, PhD Ohio State University College of Optometry, Columbus, OH, USA

11:10 **Keynote Address:** METHODOLOGIES TO DIAGNOSE AND MONITOR DRY EYE DISEASE. Murat Dogru, M.D, Ph.D. Johnson and Johnson Ocular Surface and Visual Optics Department, Keio University School of Medicine, Tokyo, Japan

11:25 **Keynote Address:** UPDATE ON THE DEWS REPORT: THERAPY AND MANAGEMENT. Michael A. Lemp, Georgetown University

11:40 **Keynote Address:** ADVANCES IN THE DESIGN AND CONDUCT OF CLINICAL TRIALS IN DRY EYE DISEASE. Gary N. Foulks, MD, FACS. Kentucky Lions's Eye Center, Lexington, KY, USA

11:55 **Keynote Address:** DEWS WORKSHOP UPDATE: CLINICAL AND BASIC RESEARCH IN DRY EYE. Ilene K. Gipson. Schepens Eye Research Institute, Department of Ophthalmology, Harvard Medical School, Boston MA, USA

12:10 **Poster Viewing & Lunch**

Poster Discussion I

Chairpersons - Philipp Ackermann (Germany), Thomas J. Millar (Australia) & Friedrich P. Paulsen (Germany)

13:40 REFRACTIVE SURGERY ALTERS CONJUNCTIVAL GOBLET CELLS IN PATIENTS WHO DEVELOP DRY EYE. M Shatos[1], D Ryan[2], K Bower[2], C Coe[2], L Peppers[2] E Guilbert[1], J Doherty[1], R Hodges[1], D Dartt[1] [1]Opthal/Harvard Med Sch, Schepens Eye Research Institute, Boston, MA;[2] Walter Reed Army Medical Center, Washington, DC

13:45 LUBRICIN AS AN OCULAR SURFACE-CONTACT LENS BOUNDARY LUBRICANT: DOSE-DEPENDENT & SYNERGISTIC EFFECTS. S. Morrison[1], B. Snider[1], B.D. Sullivan[2], E. Truitt III[3], D.A. Sullivan[4], T. Schmidt[1] [1] University of Calgary, Calgary, Canada; [2] TearLab Corp., San Diego, CA; [3] Singularis, Inc., San Diego, CA; [4] Schepens Eye Research Institute and Harvard Medical School, Boston, MA

13:50 PHOSPHOLIPIDS IN TEARS, CONTACT LENSES AND MEIBUM? Jennifer T. Saville[1], Zhenjun Zhao[2], Mark D.P. Willcox[2,3], Todd W. Mitchell[4] and Stephen J. Blanksby[1]. [1]School of Chemistry and [4]School of Health Sciences, University of Wollongong, NSW 2052, [2]Brien Holden Vision Institute and [3]School of Optometry and Vision Science, University of New South Wales, NSW 2052, Australia

13:55 A NEW MOUSE MODEL OF DRY EYE DISEASE (*Tet-mev-1* Mice) : OXIDATIVE STRESS AFFECT FUNCTIONAL DECLINE IN LACRIMAL GLAND. Yuichi Uchino,[1,2,3] Tetsuya Kawakita,[2] Masaki. Miyazawa,[3] Takamasa Ishii,[3] Hiromi Onouchi,[3] Kayo Yasuda,[3] Shigeto Shimmura,[2] Naoaki Ishii[3,] Kazuo Tsubota[2]. Ophthalmology, Tokyo Electric Power Company Hospital[1], Ophthalmology, Keio University School of Medicine,[2] Tokyo, Japan, Molecular Life Science, Tokai University School of Medicine,[3] Kanagawa, Japan

International Meibomian Gland Dysfunction Workshop: Reports

Chairpersons - Colin Cerretani (USA), James P. McCulley (USA) & Eric B. Papas (Australia)

14:00 **Introduction:** TEAR FILM & OCULAR SURFACE SOCIETY: A REPORT FROM THE INTERNATIONAL WORKSHOP ON MEIBOMIAN GLAND DYSFUNCTION. Kelly K. Nichols. Ohio State University, College of Optometry, Columbus, OH, USA

14:05 **Keynote Address:** DEFINITION & CLASSIFICATION OF MEIBOMIAN GLAND DYSFUNCTION. J. Daniel Nelson. Health Partners Medical Group, Minneapolis, MN, USA

14:20 **Keynote Address:** ANATOMY, PHYSIOLOGY & PATHOPHYSIOLOGY OF THE MEIBOMIAN GLAND. Erich Knop. Eye Clinic Research Laboratory, Charite-Univ

Med, Berlin, Germany

14:35 **Keynote Address:** TEAR FILM LIPIDS, AND LIPID-PROTEIN INTERACTIONS IN HEALTH AND DISEASE. Ben J. Glasgow. Jules Stein Eye Institute UCLA, Ophthalmology, Los Angeles, CA, USA

14:50 **Keynote Address:** EPIDEMIOLOGY OF, AND RISK FACTORS FOR, MEIBOMIAN GLAND DYSFUNCTION. Debra A. Schaumberg. Harvard Medical School, Brigham Womens Hospital, Boston, MA, USA

15:05 **Keynote Address:** EVALUATION, DIAGNOSIS & GRADING OF SEVERITY OF MEIBOMIAN GLAND DYSFUNCTION. Alan Tomlinson. Glasgow Caledonian University Vis Sci, Glasgow, Scotland, UK

15:20 **Keynote Address:** MANAGEMENT & THERAPY OF MEIBOMIAN GLAND DYSFUNCTION. Gerd Geerling. Department of Ophthalmogy, University of Wuerzburg, Wuerzburg, Bavaria, Germany

15:35 **Keynote Address:** DESIGN & CONDUCT OF CLINICAL TRIALS. Penny Asbell. Mount Sinai Medical Center, Ophthalmology, New York City, NY, USA

15:50 **Poster Session I (with Coffee & Tea)**

The Tearome: Not Just Hype

Chairpersons – Darlene A. Dartt (USA), Gordon Laurie (USA) & James Mun (USA)

16:25 **Keynote Address:** EICOSANOIDS IN THE OCULAR SURFACE AND TEAR FILM. Michal L. Schwartzman. Departments of Pharmacology & Ophthalmology, New York Medical College, Valhalla, New York, USA

16:50 **Keynote Address:** RAB GTPASES IN REGULATED SECRETION AND DISEASE. Miguel C. Seabra. Molecular Medicine, Imperial College London, London, UK; Faculdade de Ciencias Medicas, Universidade Nova de Lisboa, Portugal; and Instituto Gulbenkian de Ciência, Portugal

17:15 **Keynote Address:** ANTI-AGING APPROACH FOR THE TREATMENT OF DRY EYE. Kazuo Tsubota[1], Motoko Kawashima[1], Takaaki Inaba[1], Murat Dogru[1], Yoko Ogawa[1], Shigeru Nakamura[1], Ken Shinmura[2], Akihiro Higuchi[1], Tetsuya Kawakita.[1] Department of Ophthalmology[1], Department of Internal Medicine[2], Keio University School of Medicine, Tokyo, Japan

17:40 COLD-SENSITIVE CORNEAL AFFERENTS IMPLICATED IN BASAL TEAR PRODUCTION, TRPM8 NERVE MEMBRANE RECEPTORS, AND DRY EYE

DISEASE. Harumitsu Hirata and Michael L. Oshinsky. Department of Neurology, Thomas Jefferson University, Philadelphia, PA, USA

17:55 MESENCHYME/EPITHELIUM INTERACTION IN EYELID AND MEIBOMIAN GLAND MOPHORGENESIS. Winston W-Y Kao, Yujin Zhang, Chia-Yang Liu and Mindy K. Call. Edith J. Crawley Vision Research Center, Department of Ophthalmology, University of Cincinnati

18:10 – 19:10

Poster Session I (with Wine & Hors d'oeuvres)

Chairpersons - Philipp Ackermann (Germany), Thomas J. Millar (Australia) & Friedrich P. Paulsen (Germany)

1 CHARACTERIZATION OF MUCIN-TYPE GLYCOPROTEINS IN MARINE MAMMAL TEARS. Robin Kelleher Davis,[1,2] Pablo Argueso.[1,2] Schepens Eye Research Institute,[1] Harvard Medical School,[1,2] Boston, MA, USA

2 DETECTION OF TEAR GLYCOPROTEINS AND GLYCOSYLATION MOITIE.S P. Ramamoorthy, J.J. Nichols College of Optometry, The Ohio State University

3 OCULAR SURFACE MUCINS IN ADULTS WITH CYSTIC FIBROSIS. Katharine Evans[1], Rachel North[1], Christine Purlsow[1], Monica Berry[2]. School of Optometry & Vision Sciences, Cardiff University[1]; Academic Unit of Ophthalmology, University of Bristol, Bristol Eye Hospital[2], UK

4 IMPACT OF DIFFERENT CONTACT LENS MATERIALS ON MUCIN FRAGMENTATION: RELATION TO SYMPTOMS. M. Berry[1], Paul Murphy[2], Christine Pursolow[2], H. Pult[2,3]; [1]Academic Unit of Ophthalmology, University of Bristol, Bristol Eye Hospital, Bristol, United Kingdom; [2]Contact Lens and Anterior Eye Research (CLAER) Unit, School of Optometry and Vision Sciences, Cardiff University, Cardiff, United Kingdom. [3]Optometry and Vision Research, Weinheim, Germany

5 REGULATION OF GOBLET CELL DIFFERENTIATION IN THE CONJUNCTIVA: THE ROLE OF THE TRANSCRIPTION FACTOR, SPDEF. Ilene K Gipson[1], Albert Alhatem[1] Gang Chen[2]. Jeffrey Whitsett[2], and Hans Clevers[3]. [1]Schepens. Eye Research Institute, Harvard Medical School, Boston MA, [2]Cincinnati Children's Hospital Medical Center, University of Cincinnati School of Medicine, Cincinnati, OH and [3] Hubrecht Institute, Utrecht, The Netherlands

6 UNCHANGED GOBLET CELL COUNTS AND EPITHELIAL METAPLASIA IN SEASONAL ALLERGIC CONJUNCTIVITIS OUTSIDE THE POLLEN SEASON. Amarilla Veres, Krisztina Kosina-Hagyó, János Németh INSTITUTIONS:Semmelweis

8

University, Dept. of Ophthalmology

7 **Discussion:** REFRACTIVE SURGERY ALTERS CONJUNCTIVAL GOBLET CELLS IN PATIENTS WHO DEVELOP DRY EYE. M Shatos[1], D Ryan[2], K Bower[2], C Coe[2], L Peppers[2] E Guilbert[1], J Doherty[1], R Hodges[1], D Dartt[1] [1]Opthal/Harvard Med Sch, Schepens Eye Research Institute, Boston, MA;[2] Walter Reed Army Medical Center, Washington, DC

8 RESOLVINS RVD1 AND THE ASPIRIN-TRIGGERED RESOLVIN 17 (R)-RVD1 BLOCK HISTAMINE-STIMULATED INCREASE IN CA^{2+} AND ACTIVATION OF EXTRACELLULAR REGULATED KINASE (ERK)1/2 TO PREVENT CONJUNCTIVAL GOBLET CELL SECRETION Dartt DA[1, 3], Li D[1, 3], Hodges RR[1, 3], Shatos M[1, 3], and Serhan CN[2,] INSTITUTIONS:[1]Schepens Eye Research Institute, [2]Brigham and Womens Hospital, [3]Harvard Medical School, Boston, MA

9 NONCLINICAL PHARMACOLOGY, OCULAR DISTRIBUTION, AND SAFETY OF MIM-D3, A NOVEL NGF MIMETIC FOR THE TREATMENT OF DRY EYE. Karen Meerovitch, Teresa Lama and Garth Cumberlidge. Mimetogen Pharmaceuticals Inc. Montreal, Quebec, Canada

10 ISOLATION, CULTURE OF MOUSE LACRIMAL GLAND EPITHELIAL CELLS. Tetsuya Kawakita,[1] Shinya Kobayashi,[1] Motoko Kawashima,[1] Naoko Okada,[1] Kenji Mishima,[2] Masataka Ito,[3] Ichiro Saito,[2] Shigeto Shimmura,[1] Kazuo Tsubota[2]. [1] Department of Ophthalmology, Keio University School of Medicine,[2] Department of Pathology, Tsurumi University,[3] Department of Anatomy, National Defense University,[3] Japan

11 **Discussion:** A NEW MOUSE MODEL OF DRY EYE DISEASE (*Tet-mev-1* Mice): OXIDATIVE STRESS AFFECT FUNCTIONAL DECLINE IN LACRIMAL GLAND. Yuichi Uchino,[1,2,3] Tetsuya Kawakita,[2] Masaki. Miyazawa,[3] Takamasa Ishii,[3] Hiromi Onouchi,[3] Kayo Yasuda,[3] Shigeto Shimmura,[2] Naoaki Ishii[3,] Kazuo Tsubota[2]. Ophthalmology, Tokyo Electric Power Company Hospital[1], Ophthalmology, Keio University School of Medicine,[2] Tokyo, Japan, Molecular Life Science, Tokai University School of Medicine,[3] Kanagawa, Japan

12 EVALUATION OF LIPID OXIDATIVE STRESS STATUS IN DRY EYE DISEASE. Tais H. Wakamatsu[1AB],Murat Dogru[1A,2],Yukihiro Matsumoto[1AB],Takashi Kojima[1AB],Minako Kaido[1AB],Osama M.A. Ibrahim[1AB],Ayako Igarashi[2],Enrique A. Sato[1AB],Yoshiyuki Ichihashi[1B],Jun Shimazaki[2]and Kazuo Tsubota[1B A]J&J Ocular Surface and Visual Optics, [B]Ophthalmology, [1]Keio University School of Medicine, Tokyo, Japan;[2]Ophthalmology, Tokyo Dental College, Chiba, Japan

13 MAINTENANCE EFFECT OF EXPERIMENTAL DRY EYE AFTER DEPRIVATION OF DESICCATING STRESS IN C57BL/6 MICE. Kyung-Chul Yoon Department of Ophthalmology, Chonnam National University Medical School and Hospital

14 ADENOSINE A2A RECEPTOR UP-REGULATION IN THE MALE NOD MOUSE DRY EYE MODEL. Stina K. Carlsson[1], Daniel Diez[2], Sarah F. Hamm-Alvarez[2], Kai-Jin Wu[2] and J. Peter Gierow.[1] School of Natural Sciences, Linnaeus University, Kalmar, Sweden[1] Department of Pharmacology and Pharmaceutical Sciences, University of Southern California, School of Pharmacy, Los Angeles, USA[2]

15 CHANGES OF ION TRANSPORTERS AND AQUAPORINS IN RABBIT LACRIMAL ACINI AND DUCTS DURING PREGNANCY. Chuanqing Ding[1], Michael Lu[1], Yanru Wang[2] Cell & Neurobiology[1], Physiology & Biophysics[2], University of Southern California, Los Angeles, CA 90089, USA

16 $P2X_7$ RECEPTORS INTERACT WITH a_{1D}-ADRENERGIC AND MUSCARINIC RECEPTORS IN RAT LACRIMAL GLAND ACINI. Robin R. Hodges and Darlene A. Dartt, Schepens Eye Research Institute; Department of Ophthalmology, Harvard Medical School, Boston, MA.

17 CROSSING OF PATHS: A DEFECT IN A MAJOR REGULATORY PROTEIN OF THE SECRETORY PATHWAY INCREASES DEGRADATIVE PATHWAY ACTIVITY. Lilian Chiang[1], Tanya Tolmachova[2], Alistair N. Hume[2], Joel Schechter[3], Miguel C. Seabra[2], Sarah Hamm-Alvarez[1,3] University of Southern California [1]School of Pharmacy, [3]Keck School of Medicine , Los Angeles CA, USA, [2]Cell and Molecular Biology, Division of Biomedical Sciences, Faculty of Medicine, Imperial College, London

18 EVALUATING BIOCHEMICAL PATHWAYS IN THE MEIBOMIAN GLAND Thomas J. Millar[1]and Frank Schirra[2] School of Natural Sciences, University of Western Sydney, Australia,[1] Klinik für Augenheilkunde, Universitätsklinikum des Saarlandes, Homburg/Saar, Deutschland[2]

19 MORPHOGENESIS OF THE MOUSE MEIBOMIAN GLAND. Mindy K. Call[1], Chyong Jy Nien[2], James V. Jester[2], Winston W-Y Kao.[1] [1]Edith J. Crawley Vision Research Center, University of Cincinnati, Cincinnati, OH, USA. [2]Gavin Herbert Eye Institute, University of California Irvine, CA, USA

20 DO MARINE MAMMALS HAVE A UNIQUE TYPE OF MEIBOMIAN GLAND? Nadja Knop,[1] Erich Knop, [1] Robin Kelleher Davis.[2,3] Research Laboratory, Dept of Ophthalmology CVK, Charité - Universitätsmedizin Berlin, Germany; [1] Schepens Eye Research Inst, [2] Harvard Medical School, [2,3] Boston, MA, USA

21 VASOACTIVE INTESTINAL PEPTIDE ACTIVATES THE ADENYLYL CYCLASE PATHWAY IN HUMAN MEIBOMIAN GLAND EPITHELIAL CELLS. Wendy Kam and David A. Sullivan, Schepens Eye Research Institute and Harvard Medical School, Boston, MA, USA

22 REGULATION OF THE PROLIFERATION AND DIFFERENTIATION OF HUMAN MEIBOMIAN GLAND EPITHELIAL CELLS. Shaohui Liu and David A Sullivan, Schepens Eye Research Institute and Harvard Medical School, Boston, MA,

USA

23 DIFFERENCES IN MEIBOMIAN GLAND PHYSIOLOGY BETWEEN PRE- AND POST- MENOPAUSAL WOMEN. Tomo Suzuki[1,2], NorihikoYokoi[2], Aoi Komuro[2], and Shigeru Kinoshita[21]Department of Ophthalmology, Kyoto City Hospital, Kyoto, Japan; [2]Department of Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan

24 A SOLUTE GRADIENT IN THE TEAR MENISCUS TO EXPLAIN MARX'S LINE, ITS FORWARD MIGRATION AND MEIBOMIAN GLAND DYSFUNCTION – A NEW HYPOTHESIS. AJ Bron[1], N Yokoi [2], E.A.Gaffney [3], JM Tiffany [1]..[1]. Nuffield Laboratory of Ophthalmology, University of Oxford, UK; [2]. Department of Ophthalmology, Kyoto Prefectural University of Medicine, Japan; [3]. Mathematical Institutes, University of Oxford, UK.

25 HYPERLIPIDEMIA - A PREDISPOSING FACTOR TO MEIBOMIAN GLAND DYSFUNCTION. Souhad Lawand. MD, Ph.D Zulekha hospital, Ophthalmology department. UAE – Sharjah

26 PREVALENCE OF NON-OBVIOUS MEIBOMIAN GLAND DYSFUNCTION (NOMGD) IN A DRY EYE STUDY. C.A. Blackie[1,2], D.R. Korb[1,2] [1]Korb Associates, Boston, MA; [2]TearScience, Morrisville, NC.

27 COMPARISON OF THREE CONTEMPORARY THERAPIES FOR THE MANAGEMENT OF MEIBOMIAN GLAND DYSFUNCTION. Jennifer P. Craig[1], Stuti Misra[1], Elizabeth Robinson[2] [1]New Zealand National Eye Centre, Department of Ophthalmology and [2]Department of Epidemiology and Biostatistics, University of Auckland, New Zealand

28 CLINICAL SAFETY STUDY OF A NOVEL EYELID WARMING DEVICE USING MOIST HEAT TECHNOLOGY. Felicity Gill, Paul Murphy, Christine Purslow School of Optometry & Vision Sciences, Cardiff University, UK

29 MANAGEMENT OF LID MARGIN DISEASES WITH BLEPHACLEAN. Michel Guillon, Cecile Maissa, Stéphanie Wong OTG Research and Consultancy, London UK.

30 BLEPHASTEAM®: A NOVEL EQUIPMENT TO TREAT MEIBOMIAN GLAND DYSFUNCTION (MGD). A CLINICAL AND LABORATORY STUDY. V Profazio, P. Versura, MG Tedeschi, C. Coslovi, M. Cellini, E C Campos Ophthalmology Unit, Alma Mater Studiorum University of Bologna

31 HUMAN TEARS AND MEIBUM LIPIDOMES: A ROADMAP FOR SUCCESSFUL ANALYSIS. Igor Butovich, Department of Ophthalmology, UT Southwestern Medical Center, Dallas, TX

32 DRY EYE AND HUMAN TEAR LIPID COMPOSITIONAL, CONFORMATIONAL AND FUNCTIONAL RELATIONSHIPS USING SPECTROSCOPY. Douglas

Borchman, Gary N Foulks, Marta C Yappert. University of Louisville

33 CHARACTERISATION OF MEIBUM LIPIDS IN ASIANS WITH AND WITHOUT DRY EYE. Louis Tong,[1,2,3] Sin-Man Lam,[4] Shyam S Chaurasia,[1] Siew-Sian Yong,[1] Guanghou Shui,[4] Markus R Wenk[4] [1]Singapore Eye Research Institute, [2]Singapore National Eye Center, [3]Duke-NUS Graduate Medical School, [4]Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore

34 **Discussion:** PHOSPHOLIPIDS IN TEARS, CONTACT LENSES AND MEIBUM? Jennifer T. Saville[1], Zhenjun Zhao[2], Mark D.P. Willcox[2,3], Todd W. Mitchell[4] and Stephen J. Blanksby[1]. [1]School of Chemistry and [4]School of Health Sciences, University of Wollongong, NSW 2052, [2]Brien Holden Vision Institute and [3]School of Optometry and Vision Science, University of New South Wales, NSW 2052, Australia

35 COMPARISON OF MASS SPECTROMETRY LIPID PROFILES USING VISUAL AND COMPUTER-BASED TECHNIQUES. Kelly K. Nichols, OD, MPH, PhD;[1] Jianzhong Chen, PhD,[2] Kari B. Green-Church, PhD[2] College of Optometry;[1] Mass Spectrometry and Proteomics Facility;[2] The Ohio State University, Columbus, OH, USA

36 MODELLING MEIBOMIAN LIPID FILM STRUCTURE USING X-RAY REFLECTIVITY. Chendur K. Palaniappan[1], Shiwani R. Raju[1], Michael James[2] and Thomas J. Millar[1] School of Natural Sciences, University of Western Sydney[1], Bragg Institute, Australian Nuclear Science and Technology Organisation, Sydney[2]

37 VISCOELASTICITY OF HUMAN MEIBOMIAN LIPID FILMS AT THE AIR-LIQUID INTERFACE. Shiwani R. Raju, Chendur K. Palaniappan and Thomas J. Millar. Schoolof Natural Sciences, University of Western Sydney, Australia

38 VISCOELASTIC AND STRUCTURAL CHANGES OF MEIBOMIAN LIPIDS WITH TEMPERATURE. Danielle L. Leiske,[1] Michelle Senchyna,[2] Howard A. Ketelson,[2] Gerald G. Fuller.[1] Stanford University, Stanford, CA,[1] Alcon Research, Ltd. Fort Worth, TX,[2] USA.

39 THE INFLUENCE OF HUMAN MEIBOMIAN LIPIDS ON THE WETTING PROPERTIES OF A DROPLET. Danielle L. Leiske,[1] Cécile Monteux,[2] Michelle Senchyna,[3] Howard A. Ketelson,[3] David Meadows,[3] Gerald G. Fuller.[1]. Stanford University, Stanford, CA USA,[1] ESPCI, Paris, France,[2] Alcon Research, Ltd. Fort Worth, TX USA.[3]

40 HUMAN TEAR LIPID BREAKS UP BY DEWETTING C. Cerretani[1], C. J. Radke[1,2] [1]Chemical Engineering Department and [2]Vision Science Group University of California, Berkeley

41 TEAR EVAPORATION REDUCTION BY MODEL THIN OILY FILMS C. Cerretani[1], C.J. Radke1,[2 1] Dept. of Chemical Engineering, Univ. of California,

Berkeley, CA [2] Vision Science Group, Univ. of California, Berkeley, CA

42 THE EFFECT OF MEIBOMIAN LIPID FILMS ON EVAPORATION OF WHOLE TEARS *IN VITRO*. George H. Herok,[1,2] Shiwani R. Raju,[1] Thomas J. Millar[1.] School of Natural Sciences, University of Western Sydney[1], Department of Medical and Molecular Biosciences, University of Technology, Sydney[2]

43 IF TEAR EVAPORATION IS SO HIGH, WHY IS TEAR OSMOLARITY SO LOW? P. Ewen King-Smith[1], P. Ramamoorthy[1], K.K. Nichols[1], R.J. Braun[2], J.J. Nichols[1]. College of Optometry, The Ohio State University[1], Department of Mathematical Sciences, University of Delaware[2]

44 THE ROLE OF AQUEOUS TEAR EVAPORATION IN NORMALS AND PATIENTS WITH DRY EYE DISEASE. James P. McCulley, M.D., F.A.C.S, F.R.C. Ophth (U.K.) UT Southwestern Medical School

45 COMPUTATIONAL MODELING OF TEAR FILM DYNAMICS ON AN EYE-SHAPED DOMAIN. K.L. Maki,[1] R.J. Braun,[1] P. Ucciferro,[1] W. D. Henshaw[2] and P.E. King-Smith.[3] [1]Department of Mathematical Sciences, University of Delaware, Newark, DE 19716-2553 USA. [2]Lawrence Livermore National Laboratory, Box 808, L-550, Livermore, CA 94551-0808 USA. [3]College of Optometry, The Ohio State University, Columbus, OH 43210-1280 USA

46 ON COMPUTATIONAL MODELS OF TEAR FILM AND OSMOLARITY DYNAMICS. R.J. Braun,[1] P.E. King-Smith,[2] J.J. Nichols[2] and P. Ramamoorthy.[2] [1]Department of Mathematical Sciences, University of Delaware, Newark, DE 19716-2553 USA. [2]College of Optometry, The Ohio State University, Columbus, OH 43210-1280 USA

47 MEASURING OSMOLARITY WITH THE TEARLAB™. Santosh Khanal, Thomas J Millar. School of Natural Sciences, University of Western Sydney, Australia

48 Longitudinal Variation in Signs & Symptoms of Dry Eye Disease as Compared to a Composite Severity Index. Benjamin D. Sullivan[1], Baris Sonmez[2], Ebru Comert[2], Michael S. Berg[1], Michael A. Lemp[3]. [1]TearLab Corp. [2]Ondokuz Mayis Universitesi [3]Georgetown University

49 TEAR FILM OSMOLARITY IN DRY EYE DISEASE. Christina Jacobi, Friedrich E Kruse, Claus Cursiefen. Department of Ophthalmology, University of Erlangen-Nuremberg, Erlangen, Germany

50 EVALUATION OF TEAR OSMOLARITY IN PATIENTS UNDERGOING PHACOEMULSIFICATION CATARACT SURGERY.Arturo E. Grau (MD), Maria C. Morales (PhD), Juan A. Durán (MD, PhD). Instituto Clínico-Quirúrgico de Oftalmología, Bilbao, Vizcaya, Spain

51 EFFICACY OF TOPICAL PLASMA RICH IN GROWTH FACTOR IN THE TREATMENT OF DRY EYE. Arturo E. Grau MD, Silvia López-Plandolit MD, María C. Morales PhD,Vanesa Freire PhD-Student and Juan A. Durán MD, PhD. Instituto Clínico-Quirúrgico de Oftalmología, Bilbao, Vizcaya, Spain

52 METHODS FOR ITRAQ ANALYSES FOR QUANTITIAVE ANALYSIS OF PROTEIN EXPRESSION LEVELS IN TEAR FILM. Kari B. Green-Church,[1] Liwen Zhang,[1] Sruthi Srinivasan,[2] Mirunalni Thangavelu,[2] Christopher Paulette,[2] Kelly K. Nichols.[2] Mass Spectrometry and Proteomics Facility[1] College of Optometry,[2] The Ohio State University, Columbus, OH, USA.

53 COMPARATIVE TEAR PROTEIN PROFILING OF DRY EYE, BLEPHARITIS AND CONTROL PATIENTS BY MALDI-TOF MASS SPECTROMETRY AS A NEW DIAGNOSIS TOOL Nerea González[1], Ibón Iloro[2], Felix Elortza[2] and Tatiana Suárez[1]. [1]Bioftalmik Applied Research S.L. Viacaya Technology Park, Building 800, 48160, Derio, Spain. [2]Proteomics Platform, CIC bioGUNE, CIBERehd, ProteoRed. Vizcaya Technology Park, Building 800, 48160, Derio.

54 COMPARATIVE TEAR FLUID PROTEOMIC STUDY OF DRY EYE, BLEPHARITYS AND CONTROLS PATIENTS AS A TOOL FOR DIFERENTIAL DIAGNOSIS AUTHORS. Javier Soria[1], Jaime Echevarria[2], Iñaki Rodriguez-Agirretxe[3], Arantxa Acera[1], Nerea Gonzalez[1], Tatiana Suárez[1] Bioftalmik Applied Research S.L. Vizcaya Technology Park, Building 800, 48160, Derio, Spain 1. Hospital de Cruces, Baracaldo, Plaza Cruces-gurutzeta, 12 Vizcaya, Spain 2. Hospital de Donostia, San Sebastian, Paseo Doctor Begiristain 115, Guipuzcoa, Spain

55 TEAR PROTEIN LEVELS IN KERATOCONUS. Sivaraman A. Balasubramanian[1,2,] David C. Pye[2], Mark D.P.Willcox[1, 2] [1]Brien Holden Vision Institute, [2]School of Optometry and Vision Science, University of New South Wales, Sydney, Australia

56 ADVANCED GLYCATION END PRODUCT (AGE) MODIFIED PROTEINS IN TEARS OF DIABETIC PATIENTS. Zhenjun Zhao,[1,3] Jingfang Liu,[1,2] Bingyin Shi,[2] Shuixiang He,[2] Xiaoli Yao,[2] and Mark D.P. Willcox[1,3], Brien Holden Vision Institute,[1] Sydney, Australia; First Hospital Affiliated to Medical College, Xi'an Jiaotong University,[2] Xi'an, China; The School of Optometry and Vision Science, University of New South Wales,[3] Sydney, Australia

57 BLOOD COAGULATION FACTOR XIII IN TEARS. Zsuzsanna Z. Orosz,[1] Éva Katona,[1] Andrea Facskó,[2] László Módis,[2] László Muszbek,[1,3]András Berta.[2] Clinical Research Center,[1] Department of Ophthalmology[2] and Thrombosis, Hemostasis and Vascular Biology Research Group of the Hungarian Academy of Sciences,[3] University of Debrecen, Medical and Health Science Center, Debrecen, Hungary

58 THE EFFECT OF EYE DROP WHICH COMBINES SODIUM HYALURONATE AND CARBOXY METHYL CELLULOSE IN TREATING DRY EYE Hungwon Tchah, Jae Yong Kim, Myoung Joon Kim, Jae Hyung Kim, Jooen Lee. Department of

Ophthalmology, University of Ulsan, Asan Medical Center, Seoul, Korea

59 EFFICACY OF SODIUM HYALURONATE AND CARBOXYMETHYLCELLULOSE IN TREATING MILD TO MODERATE DRY EYE DISEASE. Tae-im Kim,1 Ji Hwan Lee,1 Ji-Won Kwon,2 Hyun Suk Ahn,1 Eung Kweon Kim,1 1The Institute of Vision Research, Department of Ophthalmology, Yonsei University College of Medicine, Seoul, Korea 2 Department of Ophthalmology, Seoul National University Hospital, Seoul, Korea

60 **Discussion:** LUBRICIN AS AN OCULAR SURFACE-CONTACT LENS BOUNDARY LUBRICANT: DOSE-DEPENDENT & SYNERGISTIC EFFECTS. S. Morrison[1], B. Snider[1], B.D. Sullivan[2], E. Truitt III[3], D.A. Sullivan[4], T. Schmidt[1 1] University of Calgary, Calgary, Canada; [2] TearLab Corp., San Diego, CA; [3] Singularis, Inc., San Diego, CA; [4] Schepens Eye Research Institute and Harvard Medical School, Boston, MA

61 EFFECTS OF THE COMBINATION OF HYALURONIC ACID AND TAMARIND SEEDS POLYSACCHARIDE IN THE MANAGEMENT OF DRY EYE. Stefano Barabino, Cristiana Valente, Guia Corsi, Maurizio Rolando. Ocular Surface Research Center, Department of Neurosciences, Ophthalmology, and Genetics, University of Genoa, Genoa, Italy.

62 PREPARATION OF A CORD BLOOD SERUM EYE DROPS FOR TOPICAL USE IN SEVERE CORNEAL EPITHELIOPATHY. M. Buzzi, A. Stancari, C. Vaselli, C. Coslovi, A. Terzi, A. Abenavoli, G. Bersani P. Versura , EC Campos Emilia Romagna Cord Blood Bank-Transfusion Service, Pharmacy Service S.Orsola-Malpighi Hospital, Ophthalmology Unit Alma Mater Studiorum University of Bologna

63 CORD BLOOD SERUM EYE DROPS IN THE TREATMENT OF SEVERE CORNEAL EPITHELIAL DEFECTS IN GVHD AND SS-I PATIENTS: A PILOT STUDY. EC Campos, P. Versura, V. Profazio, L. Foroni, C. Schiavi, M. Arpinati, N Malavolta - Ophthamology Unit, Hematology Department, Rheumatology Service, Alma Mater Studiorum University of Bologna, Italy

64 CELL TARGETING BY TEAR PROSECRETORY MITOGEN – LACRITIN. Gordon W. Laurie , Yinghui Zhang Cell Biology, University of Virginia

65 EFFICACY OF NOVEL THIOLATED BIOPOLYMER IN THE TREATMENT OF DRY EYE SYNDROME. Leopold Schmetterer, Sonja Hoeller, Margit Hornof Medical University of Vienna, Croma Pharma

66 THERAPEUTIC EFFECT OF ELEDOISIN IN OCULAR PHATOLOGICAL MANIFESTATIONS SJOGREN'S SYNDROME. Capra Piera. Ophthalmological Clinic University La Sapienza Roma, Italy

67 HOW ARTIFICIAL TEAR PRODUCTS CAN MODIFY & RESTORE THE PHYSICAL/CHEMICAL CHARACTERISTICS OF THE HUMAN TEAR FILM. D.

Meadows[1], H. Ketelson[1], Robert Baier[2], Gerald G. Fuller[3], Donald Korb[4], Tom Millar[5], Robert Pelton[6], [1]Alcon Research Inc, Ft. Worth, TX, [2]SUNY Buffalo, [3] Stanford University [4]Korb Associates, [5]Univ. of Western Sydney, [6]McMaster University.

68 AUGMENTATION OF TEAR FILM LIPID LAYER BY AN NEW ARTIFICIAL TEAR EMULSION. Howard Ketelson[1], Robert Baier[2], Anne Meyer[2], Jonathan Prindle[2], Michael Christensen[1], and Michelle Senchyna[1].[1]Alcon Research Ltd;[2]SUNY Buffalo

69 SEVERE DRY EYES NOT AMENABLE TO CONVENTIONAL TOPICAL LUBRICATION: WHAT IS NEXT? Boboridis G. K., Mikropoulos G. D., Ziakas G. N., Toumanidou V., Lake S., Georgiadis S. N. 1st Ophthalmology Department, Aristotle University of Thessaloniki.

70 THE EFFECT OF OCULAR SURFACE LUBRICANT EYEDROPS ON LID PARALLEL CONJUNCTIVAL FOLDS (LIPCOF) AND OTHER SIGNS AND SYMPTOMS OF TEAR FILM DYSFUNCTION. Igor Petriček[1], Snježana Lovrinčević[2], Sanja Njirić[3], Goranka Petriček[4], Petar Rašregorac[5], Iris Urlić[6], Martina Tomić[7] Zagreb University Hospital Eye Department, Zagreb, Croatia[1] Croatia insurance, Zagreb, Croatia[2] Ophthalmology Polyclinic "dr Luciana Pavićević", Rijeka, Croatia[3] Zagreb University Medical School Family Medicine Department, "Andrija Štampar" School of Public Health, Zagreb, Croatia[4] Private Ophthalmology Practice, Samobor, Croatia[5] Ghetaldus Ophthalmology Polyclinic, Zagreb, Croatia[6] Clinical Hospital for Diabetes „Vuk Vrhovac", Zagreb, Croatia[7]

71 CLINICAL AND HISTOLOGICAL CHANGES CAUSED BY SUGAR CANE BURNING EMISSIONS ON THE OCULAR SURFACE OF SUGAR CANE WORKERS. Priscila Novaes[1A], Monique Matsuda[1A], Maristela P. Rangel[1A], Ubiratan P. Santos[1B], Newton Kara-José[1A], Alejandro Berra[2], Paulo H. N. Saldiva[1CA]Ophthalmology, [B]Pneumology- INCOR, [C]Pathology, [1]University of São Paulo, São Paulo, Brazil; [2]Pathology, University of Buenos Aires, Buenos Aires, Argentina

72 THE EXPRESSION AND FUNCTION OF RIG-I AND MDA-5 IN HUMAN OCULAR SURFACE EPITHELIUM. Mayumi Ueta[a,b], Norihiko Yokoi[a], Satoshi Uematsu[c], Taro Kawai[c], Shizuo Akira [c], and Shigeru Kinoshita[a] [a]Department of Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan [b]Research Center for Inflammation and Regenerative Medicine, Faculty of Life and Medical Sciences, Doshisha University, Kyoto, Japan [c]Department of Host Defense, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan

73 TEMPERATURE-SENSING BY THE HUMAN CONJUNCTIVAL EPITHELIUM THROUGH ACTIVATION OF TRANSIENT RECEPTOR POTENTIAL VANILLOID (TRPV) CHANNELS. Fabian Garreis[1,2], Monika Valtink[3], Friedrich Paulsen[1],[2], Uwe Pleyer[4] and Stefan Mergler[4] [1]Department of Anatomy and Cell Biology, Martin Luther University, Halle-Wittenberg, Halle, Germany; [2]Department of

Anatomy II, Friedrich Alexander University Erlangen-Nürnberg, Erlangen, Germany [3]Department of Anatomy, Medical Faculty "Carl Gustav Carus" TU Dresden, Dresden, Germany; [4]Department of Ophthalmology, University Medicine Berlin, Campus Virchow Hospital, Berlin, Germany

74 ENVIRONMENTAL BIOMECHANICS GOVERNS CELL BEHAVIOUR OF CORNEAL KERATINOCYTES. Eberwein P, Steinberg T, Schulz S, Tomakidi P, Beck D, Reinhard. T University Eye Hospital Freiburg;Department of Oral Biotechnology

75 SOURCES OF VARIABILITY IN MORPHOMETRIC CLASSIFICATION OF CORNEAL EPITHELIAL CELLS. Gemma Julio[1], Mª Dolores Merindano[1], Sara Lluch[1], Carme Caum[2] [1]Department of Optics and Optometry, Universitat Politècnica de Catalunya (UPC), Spain. [2]Faculty of Mathematics and Statistics, Universitat Politècnica de Catalunya (UPC), Spain

76 MORPHOMETRIC DESCRIPTION OF CORNEAL EPITHELIAL CELLS WITH LOW DENSITY OF MICROVILLI IN DIFFERENTS DRYING TIMES Gemma Julio[1], Mª Dolores Merindano[1], Sara Lluch[1], Carme Caum[21]Department of Optics and Optometry, Universitat Politècnica de Catalunya (UPC), Spain. [2]Faculty of Mathematics and Statistics, Universitat Politècnica de Catalunya (UPC), Spain

Friday, September 24, 2010

SESSION II

Late Breaking News: Sjogren's Syndrome

Chairpersons - Esen K. Akpek (USA), Ammon B. Peck (USA) & Yuichi Uchino (Japan)

8:00 **Keynote Address:** RECENT ADVANCES TOWARDS UNDERSTANDING THE GENETIC BASIS OF SJöGREN'S SYNDROME. Christopher Lessard and Kathy L. Moser. Arthritis and Immunology Program, Oklahoma Medical Research Foundation, Oklahoma City, OK, USA

8:20 **Keynote Address:** SJOGREN'S SYNDROME: FROM SLIT LAMP TO CYTOPLASM. Barbara Caffery. University of Waterloo, School of Optometry Waterloo, Ontario Canada

8:45 **Keynote Address:** REVERSAL OF END-STAGE SJÖGREN'S SYNDROME AND DIABETES IN THE NOD MOUSE: CURRENT CLINICAL TRIAL PROGRESS AND BIOMARKER DESIGN. Denise L. Faustman, Massachusetts General Hospital and Harvard Medical School, Boston, MA, USA

9:00 **Keynote Address:** QUALITY OF LIFE IN PRIMARY SJÖGREN'S SYNDROME. Simon Bowman, Consultant Rheumatologist, Selly Oak Hospital Birmingham, UK and Honorary Senior Clinical Lecturer, University of Birmingham, UK

9:20 **Keynote Address:** THE INTERNATIONAL SJÖGREN'S SYNDROME REGISTRY–CURRENT STATUS AND FUTURE OBJECTIVES. Troy Daniels,[1] Caroline Shiboski,[1] Lindsey Criswell,[1] Stephen Shiboski,[1] John Whitcher,[1] Morten Schiødt,[2] Hector Lanfranchi,[3] Hisanori Umehara,[4] Zhao Yan,[5] Stephen Challacombe,[6] M. Srinivasan,[7] Fred Vivino,[8] Alan Baer,[9] John Greenspan,[1] for the Sjögren's International Collaborative Clinical Alliance (SICCA). [1]University of California, San Francisco, USA; [2]Copenhagen University, Rigshospitalet, Denmark; [3]University of Buenos Aires and German Hospital, Argentina; [4]Kanazawa Medical University, Ishikawa, Japan; [5]Peking Union Medical College Hospital, Beijing, China; [6]King's College London, UK; [7]Aravind Eye Hospital, Madurai, India; [8]University of Pennsylvania, Philadelphia, USA; [9]Johns Hopkins University, Baltimore, USA

9:40 **Poster Session II (with Coffee & Tea)**

Visual & Optical Effects of Tear Film Instability

Chairpersons - Christine Purslow (UK), Eric Xiaojia Wei (Australia) & Norihiko Yokoi (Japan)

10:15 **Keynote Address:** THE EFFECTS OF TEAR FILM INSTABILITY ON VISION. Carolyn G. Begley, Indiana University School of Optometry, Bloomington, IN, USA

10:40 **Keynote Address:** MEASURING THE OPTICAL EFFECTS OF TEAR FILM INSTABILITY. Larry N. Thibos, Indiana University School of Optometry, Bloomington, IN, USA

11:05 POST BLINKING SERIAL MEASUREMENTS OF DYNAMIC WAVEFRONT ABERRATIONS AND FUNCTIONAL VISUAL ACUITY IN NORMAL AND DRY EYES. Suk Kyue Choi, M.D., Hae Won Seo, M.D., Jin Hyoung Kim, M.D., Do Hyung Lee, M.D., Ph.D

11:20 CHARACTERISTICS OF DRY EYES WITH SHORT TEAR FILM BREAK-UP TIME. Seika Den[1], Dogru Murat[1,2], Kazunari Higa[1], Jun Shimazaki[1,2] 1; Department of Ophthalmology, Tokyo Dental College. 2; Keio University School of Medicine

11:35 EVALUATION OF TEAR FILM QUALITY WITH A DOUBLE-PASS SCATTERING INDEX. Pisella Pj, Habay T, Nochez Y. CHU Bretonneau, Tours, France Faculté de Médecine François Rabelais, Tours, France.

11:50 **Poster Viewing & Lunch**

Poster Discussion II

Chairpersons - Fabian Garreis (Germany), Winston W. Kao (USA) & Eduardo M. Rocha (Brazil)

13:20 EFFECT OF PUNCTAL OCCLUSION ON LIPID-LAYER SPREAD AND TEAR FILM STABILITY IN AQUEOUS-DEFICIENT DRY EYE. Norihiko Yokoi,[1] Rieko Sakai,[1] Anthony J. Bron,[2] John M. Tiffany,[2] Georgi As. Georgiev,[3] and Shigeru Kinoshita.[1] Kyoto Prefectural University of Medicine,[1] Kyoto, Japan; University of Oxford,[2] Oxford, UK; University of Sofia,[3] Sofia, Bulgaria

13:25 IMMUNE RESPONSE IN THE CONJUNCTIVAL EPITHELIUM AND OCULAR SURFACE DAMAGE IN PATIENTS WITH DRY EYE. Stefano Barabino[1], Cristiana Valente[1], Elisa Montaldo[2], Maria Cristina Mingari[2,3], Maurizio Rolando[1]. [1]Ocular Surface Research Center, Department of Neurosciences, Ophthalmology, and Genetics, University of Genoa; [2]Department of Experimental Medicine, University of Genoa; [3]Istituto Nazionale per la Ricerca sul Cancro, Genoa, Italy

13:30 QUANTIFICATION OF TEAR FILM INFLAMMATORY CYTOKINES IN SJOGREN'S DRY EYE. Michelle Senchyna,[1] Ravaughn Williams,[1] Nancy McNamara,[2] Michael Brubaker[1], Pavel Iserovich,[3] Robert Sack.[3] Alcon Research Ltd,[1] U California-San Fransisco,[2] SUNY School of Optometry.[3]

13:35 DRY EYE AND *DEMODEX* BLEPHARITIS. Jae Chan Kim, Jee Taek Kim, Seok Hyun Lee, Yeoun Sook Chun. Department of Ophthalmology, College of Medicine, Chung-Ang University, Seoul, Korea

Inflammation: a Cause or Consequence of Ocular Surface Disease

Chairpersons - Virginia L. Calder (UK), Laura Contreras Ruiz (Spain) & Alison M. McDermott (USA)

13:40 **Keynote Address:** INFLAMMATION: A CAUSE OR CONSEQUENCE OF MUCOSAL DISEASE? Richard S. Blumberg, Laboratory of Mucosal Immunology, Gastroenterology Division, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts

14:05 **Keynote Address:** INDUCTION OF CD4+ T CELL MEDIATED IMMUNITY IN DRY EYE DISEASE. Reza Dana. Schepens Eye Research Institute and Massachusetts Eye and Ear Infirmary, Harvard Medical School Department of Ophthalmology, Boston MA, USA

14:30 **Keynote Address:** ROLE OF INFLAMMATION IN HSV-1-INDUCED STROMAL KERATITIS. Robert L. Hendricks. Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA USA

14:55 INTERLEUKIN 33, A NOVEL EPITHELIUM-DERIVED CYTOKINE, LINKS INNATE IMMUNITY TO ALLERGIC INFLAMMATION ON OCULAR SURFACE. De-Quan Li, M.D., Ph.D., Lili Zhang, M.D., Xiaofen Zheng, M.D., Ph.D., Guiqiu Zhao, M.D, Ph.D., Matthew A. Cunningham, M.D., Cintia S. De Paiva, M.D., Stephen C. Pflugfelder, M.D. Ocular Surface Center, Cullen Eye Institute, Department of Ophthalmology, Baylor College of Medicine, Houston, Texas, USA

15:10 INFLAMMATORY CONDITIONS AFFECT TIGHT JUNCTION PROTEINS IN CORNEAL EPITHELIAL CELLS L. Contreras-Ruiz,[1,2] U. Schulze,[3] A. López, [1,2] F. Paulsen,[3,4] Y. Diebold.[1,2] Ocular Surface Group, IOBA-University of Valladolid, Valladolid, Spain; [1] Networking Research Center on Bioengineering, Biomaterials and Nanomedicine (CIBER BBN), Valladolid, Spain; [2] Department of Anatomy and Cell Biology, Martin-Luther-University Halle-Wittenberg, Halle/Saale, Germany; [3] Department of Anatomy II, Friedrich Alexander University Erlangen, Germany. [4]

15:25 **Poster Session II (with Coffee & Tea)**

The Best Defense is a Good Offense: Ocular Surface Infection

Chairpersons - Danielle Augustin (USA), Gerald B. Pier (USA) & Fiona J. Stapleton (Australia)

16:00 **Keynote Address:** CORNEAL EPITHELIAL BARRIER FUNCTION AGAINST BACTERIA. Fleiszig SMJ[1], Tam C[1], Mun J[1], Evans DJ[2]. UC Berkeley, CA[1]. Touro University-CA[2].

16:25 **Keynote Address:** ELEVATED EXPRESSION OF TLRS, DECTIN-1, AND IL-1B IN HUMAN CORNEAS INFECTED WITH THE FILAMENTOUS FUNGI *ASPERGILLUS* AND *FUSARIUM*. R. Siva Ganesa Karthikeyan[1], Sixto M. Leal[2], Lalitha Prajna[1] and Eric Pearlman[2]. [1]Aravind Eye Hospital, Madurai, Tamil Nadu, India, [2]Department of Ophthalmology and Visual Sciences, Case Western Reserve

University, Cleveland, Ohio

16:50 **Keynote Address:** CHARACTERIZATION OF THE PATHOGENIC MECHANISM OF ACANTHAMOEBA KERATITIS - THE PROTECTIVE ROLE OF TEAR FLUID. Noorjahan Panjwani, Departments of Ophthalmology and Biochemistry, and The New England Eye Center, Tufts University School of Medicine, Boston, Massachusetts

17:15 A METALLOPROTEINASE ZmpC SECRETED BY *STREPTOCOCCUS PNEUMONIAE* INDUCES MUC16 SHEDDING from oculr surface EPITHELIAL CELLS B. Govindarajan, B. B Menon, S. Spurr-Michaud, M. Gilmore, P. Argüeso, and I. K. Gipson. Schepens Eye Research Institute, Harvard Medical School, Boston, MA

17:30 MACROPHAGE MIGRATION INHIBITORY FACTOR (MIF) PROMOTES *P. AERUGINOSA*-INDUCED OCULAR KERATITIS. Jill Nagashima[1], Tanweer Zaidi[1], Robert A. Mitchell[2], Gerald B. Pier[1], and Mihaela Gadjeva[1] Channing Laboratory[1], Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115; James Graham Brown Cancer Center, University of Louisville[2], Louisville, Kentucky

17:45 - 18:45

Poster Session II (with Wine & Hors d'oeuvres)

Chairpersons - Fabian Garreis (Germany), Winston W. Kao (USA) & Eduardo M. Rocha (Brazil)

1 CONCENTRATION-BASED FLUORESCENT OBSERVATIONS OF TEAR FILM BREAKUP P. Ramamoorthy, P.E. King-Smith, J.J. Nichols The Ohio State University College of Optometry

2 THE PROTEINS AND THEIR INTERACTIONS IN HUMAN AND RABBIT TEARS: IMPLICATION ON TEAR FILM STABILITY. Eric Xiaojia Wei,[1,2] Zhenjun Zhao[1,2] and Mark DP Willcox.[1,2] Brien Holden Vision Institute, Sydney, Australia,[1] The School of Optometry and Vision Science, University of New South Wales, Sydney, Australia.[2]

3 EVALUATION OF EXTENDED TEAR STABILITY BY TWO EMULSION BASED ARTIFICIAL TEARS. Donald Korb1, Caroline Blackie[1], David Meadows[2], Mike Christensen[2], Marion Tudor [2] : [1] Korb Associates, Boston, MA; [2] Alcon Research LTD. Fort Worth, TX;.

4 SURFACE INTERACTIONS OF BENZALKONIUM CHLORIDE WITH MEIBOMIAN AND CORNEAL LIPIDS AND WITH WHOLE TEARS. Georgi As. Georgiev,[1] Norihiko Yokoi,[2] Krasimir Koev,[3] Slavyana Ivanova,[1] Elena Kutsarova,[1]

Alexander Kyumurkov,[1] Rumen Krastev,[4] Zdravko Lalchev.[1] University of Sofia[1] and University hospital,[3] Sofia, Bulgaria, Kyoto Prefectural University of Medicine,[2] Japan, Max Planck Institute of Colloids and Interfaces,[4] Potsdam, Germany

5 THE INTERACTION BETWEEN EYE MAKE-UP REMOVERS AND THE TEAR FILM. Edward Ian Pearce, Madeline Harvey-Brown & Claire Higginson Glasgow Caledonian University, Glasgow, Scotland UK

6 ASSOCIATION OF TEAR FILM WAVEFRONT METRICS WITH GRADE OF PRE-LENS TEAR BREAK-UP AND VISION. Haixia Liu, C.G. Begley, N.L. Himebaugh, L.N. Thibos, Z. Wu, School of Optometry, Indiana University, Bloomington, IN

7 MEASURING LIGHT SCATTER DURING TEAR BREAK-UP WITH SHACK-HARTMANN WAVEFRONT ABERROMETER. Larry N. Thibos, Jayoung Nam, Nikole Himebaugh, Haixia Liu, Arthur Bradley. School of Optometry, Indiana University, Bloomington, IN, USA

8 CHANGES OF DYNAMIC WAVEFRONT ABERRATION AFTER PUNTAL OCCLUSION IN DRY EYE PATIENTS. Do hyung Lee, MD, PhD., Hyung seok Cho, MD, Jin Hyoung Kim, MD, Suk Kyue Choi, MD. Department of Ophthalmology, Ilsan Paik hospital, Inje University, Korea

9 **Discussion:** EFFECT OF PUNCTAL OCCLUSION ON LIPID-LAYER SPREAD AND TEAR FILM STABILITY IN AQUEOUS-DEFICIENT DRY EYE. Norihiko Yokoi,[1] Rieko Sakai,[1] Anthony J. Bron,[2] John M. Tiffany,[2] Georgi As. Georgiev,[3] and Shigeru Kinoshita.[1] Kyoto Prefectural University of Medicine,[1] Kyoto, Japan; University of Oxford,[2] Oxford, UK; University of Sofia,[3] Sofia, Bulgaria

10 A NEW PORTABLE DIGITAL MENISCOMETER. Stefan Bandlitz[1,2], Heiko Pult[1,3], Christine Purslow[1], Paul Murphy[1], Anthony J. Bron[4]. [1]School of Optometry and Vision Sciences, Cardiff University, Cardiff, UK; [2]Cologne School of Optometry, Cologne, Germany; [3]Optometry and Vision Research, Weinheim, Germany; [4]Nuffield Laboratory of Ophthalmology, University of Oxford, Oxford, UK

11 MEASURING OF THE LOWER TEAR MENISCUS HEIGHT WITH TEARSCOPE® Krisztina Kosina-Hagyó, Amarilla Veres, Eszter Fodor, Béla Csákány, János Németh. SemmelweisUniversity, Department of Ophthalmology

12 TEAR MENISCUS AREA SOFTWARE (TMAS) FOR THE ASSESSMENT OF TEAR MENISCUS CHARACTERISTICS IN THE DIAGNOSIS OF DRY EYE DISEASE. Takashi Kojima[1,2], Osama M.A. Ibrahim[1,2], Tais Hitomi Wakamatsu[1,2], Koji Tonomura[3], Yukihiro Matsumoto[1,2], Murat Dogru[1], Kazuo Tsubota2.1. Johnson & Johnson Ocular Surface and Visual Optics Department, Keio University School of Medicine 2. Department of Ophthalmology, Keio University School of Medicine [3]. Konan Medical

13 MEASUREMENT OF TEAR MENISCUS IN DRY EYE PATIENTS WITH FOURIER-DOMAIN OPTICAL COHERENCE TOMOGRAPHY. David Huang, Pho Nguyen, Matthew C. Bujak, Ethan Tittler, Xinbo Zhang, Yan Li, Samuel Yiu.Doheny Eye Institute, University of Southern California, Los Angeles, CA, USA

14 MENISCOMETRY USING ANTERIOR SEGMENT OPTICAL COHERENCE TOMOGRAPHY Hiroaki Kato,[1,2] Norihiko Yokoi,[2] Anthony J Bron,[3] John M Tiffany[3] and Shigeru Kinoshita[2]. National Center for Geriatrics and Gerontology,[1] Aichi, Japan; Kyoto Prefectural University of Medcine,[2] Kyoto, Japan; University of Oxford,[3] Oxford, UK

15 COMBINATION OF PHENOL RED THREAD TEST AND SCHIRMER 1 TEST AS A RESCUE STRATEGY TO DETECT SEVERE OCULAR DRYNESS. De Monchy I, Mariette X, Pogorzalek N, Kaswin G, Gendron G, Labetoulle M Hopital Bicetre, Université Paris-Sud, 94275 Kremlin-Bicetre, FRANCE

16 SENSITIVITY AND SPECIFICITY OF A MODIFIED TEAR BASAL SECRETION TEST AND SCHIRMER'S I TEST IN SJÖGREN'S SYNDROME DIAGNOSIS Pasquale Aragona, Rosaria Spinella, Anna Roszkowska, Laura Rania, Elisa Postorino. Department of Ophthalmology, University of Messina, Italy

17 IS BLINKING ALTERED IN DRY EYE? Meredith E. Jansen, Carolyn G. Begley, Minhua Chen, Haixia Liu. Indiana University School of Optometry; Bloomington, IN USA

18 DRY EYE: A PRIMARY CHARACTERISTIC OF CYSTIC FIBROSIS? Katharine Evans, Rachel North, Christine Purslow School of Optometry & Vision Sciences, Cardiff University, UK

19 TEAR FERNING IN CYSTIC FIBROSIS. Katharine Evans, Rachel North, Christine Purslow.School of Optometry & Vision Sciences, Cardiff University, UK

20 INVESTIGATION OF TEAR FERNING IN NORMAL AND DRY EYES BEFORE AND AFTER USING ARTIFICIAL TEARS. Ali Masmali[1'2], Christine Purslow[1], Paul Murphy[1]. 1School of Optometry & Vision Sciences, Cardiff University, Cardiff, United Kingdom 2Optometry Department, School of Applied Medical Sciences, King Saud University, Riyadh, Saudi Arabia

21 COMPARISON OF DRY EYE PATIENT SIGNS IN ENVIRONMENTAL CONDITIONS TO STATIC AND MOBILE CONTROLLED ADVERSE ENVIRONMENT(CAE) MODELS. Joel Naor[1], Donna Welch[1], Gail Torkildsen[2], George W. Ousler III[11]Ora, Inc, Andover, MA; [2]Andover Eye Associates, Andover, MA

22 LIPCOF IN THE DIAGNOSIS OF DRY EYE - MULTICENTER STUDY. Janos Nemeth, [1] Eszter Fodor, [1] Andras Berta, [2] Tímea Komar, [2] Igor Petricek, [3] Mohamed Higazy, [4] Pavel Nemec, [5] Marek Prost, [6] Galina Semak, [7] Hristina Grupcheva, [8] Ozlem

Evren, [9] Petra Schollmayer, [10] Ameed Samaha, [11] Katarina Hlavackova. [12] Dept of Ophthalmology Semmelweis University Budapest, Hungary, [1] Debrecen, Hungary, [2] Croatia, [3] Egypt, [4] Czech Republic, [5] Poland, [6] Belarus, [7] Bulgaria, [8] Turkey, [9] Slovenia, [10] Lebanon, [11] Slovakia[12]

23 CONJUNCTIVAL FOLDS: SIGN OF AGE OR SIGNS OF LACRIMAL TEARS DYSFUNCTION. Johannes Nepp Ophthalmological Department, Medical University Vienna

24 THE LONGITUDINAL IMPACT OF SOFT CONTACT LENS WEAR ON LID WIPER EPITHELIOPATHY AND LIDPARALLEL CONJUNCTIVAL FOLDS. Heiko Pult[1,2,] Paul J Murphy[2], Christine Purslow[2] [1]Optometry and Vision Research, Weinheim, Germany, [2]School of Optometry and Vision Sciences, Contact Lens and Anterior Eye Research (CLAER) Unit, Cardiff University, Wales, UK.

25 COMMUNITY BASED STUDY IN ELDERLY POPULATION FOR THE ASSOCIATION BETWEEN DEPRESSIVE SCORE / DEMENTIA SCORE AND DRY EYE. Joon Young Hyon[1], Sang Beom Han[1], Ji Won Kwon[2], Se Joon Woo[1], Jung Jae Lee[3], Tae Hui Kim[4], Ki Woong Kim[4] 1 Department of Ophthalmology, Seoul National University Bundang Hospital, Seongnam, Korea 2 Seoul National University Healthcare System Gangnam Center, Seoul, Korea 3 Department of Psychiatry, Kyungbook National University Hospital, Daegu, Korea 4 Department of Neuropsychiatry, Seoul National University Bundang Hospital, Seongnam, Korea

26 THE IMPACT OF DRY EYE ON EVERYDAY LIFE (IDEEL) QUESTIONNAIRE: SATURATION, RELIABIILTY, VALIDITY AND DISCRIMINATIVE ABILITY COMPARED TO GENERIC MEASURES Linda Abetz MA[1], Robin Chalmers OD[2], Carolyn Begley OD[3], Polyxane Mertzanis MPH[1], Kitty Venkataraman PhD, Rod Barnes, MBA[4], and IDEEL Study group [1]Mapi Values, Cheshire, UK [2]Clinical Trial Consultant, Atlanta, GA, [3]Indiana University, School of Optometry, Bloomington, IN, [4]Alcon Research Ltd, Fort Worth, TX,

27 A REVIEW OF THE PATIENT-REPORTED OUTCOME INSTRUMENTS TO MEASURE THE IMPACT OF DRY EYE ON HEALTH-RELATED QUALITY OF LIFE. Isabelle Guillemin & Benoit Arnould Mapi Values, Lyon, France

28 TRANSCULTURAL ADAPTATION AND VALIDATION OF THE OCULAR SURFACE DISEASE INDEX (OSDI) IN PATIENTS OF AN UNIVERSITY HOSPITAL IN SÃO PAULO, BRAZIL. Felipe Ribeiro Ferreira[1], Ruth Miyuki Santo[1], Priscila Novaes[1] [1]Division of Ophthalmology, School of Medicine of the University of São Paulo , São Paulo, Brazil

29 IMPLEMENTATION OF A NEW QUESTIONNAIRE INTO RECENTLY REVISED JAPANESE DRY EYE DIAGNOSTIC CRITERIA. Miki Uchino[1,2], Murat Dogru[2], Yuichi Uchino[2], Samantha Ward[2], Tais Wakamatsu[2], Yoko Ogawa[2], Norihiko Yokoi[3], Kazuo Tsubota[2] [1]Ryogoku Eye Clinic, [2]Keio University School of Medicine, Tokyo,

Japan, [3] Kyoto Prefectural University of Medicine, Kyoto, Japan

30 COMPARISON OF TWO DRY EYE QUESTIONNAIRES AND CLINICAL OBSERVATIONS IN NON-CONTACT LENS WEARERS. J. Enbuske, E. Blixt, K. Silfwerbrand, and J. P. Gierow. Schoolof Natural Sciences, Linnaeus University, Kalmar, Sweden

31 DRY EYE SYMPTOMATOLOGY OF NON CONTACT LENS WEARERS WITH THE ODSI QUESTIONNAIRE. Cécile Maissa, Michel Guillon, Caroline Flomet, Elisabeth Bolton. OTG Research & Consultancy London UK

32 CONTACT LENS DRY EYE QUESTIONNAIRE-8 (CLDEQ-8) REFLECTS STATUS OF AND RESPONDS TO CHANGE IN OVERALL OPINION OF CL PERFORMANCE. Robin L. Chalmers[1], Kurt Moody[2], Graeme Young[3], Sheila Hickson-Curran[2], Carolyn Begley[4], Chris Hunt[3] [1]Clinical Trial Consultants, Atlanta, GA, USA, [2]Vistakon, Inc., Jacksonville, FL, USA, [3]Visioncare Research Ltd., Farnham, Surrey, UK, [4]Indiana University, Bloomington, IN, USA

33 DRY EYE SYMPTOMATOLOGY OF CONTACT LENS WEARERS WITH THE OSDI QUESTIONNAIRE. Michel Guillon, Cecile Maissa, Elizabeth Bolton, Caroline Flomet. OTG Research & Consultancy, London, UK

34 DRY EYE-LIKE SYMPTOMS AND SIGNS AFTER CATARACT SURGERY. Stefano Barabino, Federico Solignani, Cristiana Valente, Maurizio Rolando Ocular Surface Research Center, Department of Neurosciences, Ophthalmology, and Genetics, University of Genoa, Genoa, Italy

35 **Discussion:** IMMUNE RESPONSE IN THE CONJUNCTIVAL EPITHELIUM AND OCULAR SURFACE DAMAGE IN PATIENTS WITH DRY EYE. Stefano Barabino[1], Cristiana Valente[1], Elisa Montaldo[2], Maria Cristina Mingari[2,3], Maurizio Rolando[1]. [1]Ocular Surface Research Center, Department of Neurosciences, Ophthalmology, and Genetics, University of Genoa; [2]Department of Experimental Medicine, University of Genoa; [3]Istituto Nazionale per la Ricerca sul Cancro, Genoa, Italy

36 HYPEROSMOLAR STRESS ENHANCES HLA-DR EXPRESSION IN HUMAN CONJUNCTIVA. P. Versura, V Profazio, C Coslovi, L Foroni, C. Schiavi, E C CamposOphthalmology Unit, Alma Mater Studiorum University of Bologna, Italy

37 CONJUNCTIVAL HLA-DR EXPRESSION AND SURGICAL OUTCOMES OF TRABECULECTOMY. João M. Furtado, Jayter S. de Paula, Edson G. Soares, Eduardo M. Rocha, Régia C. P. Lira, Ana M. da Rocha, Neifi H. S. Dhegaide, Eduardo A. Donadi, Maria de L. V. Rodrigues. Departments of Ophthalmology, Internal Medicine and Pathology, Medical School of Ribeirão Preto, University of São Paulo, Brazil

38 CONJUNCTIVAL INFLAMMATION IN PATIENTS UNDER TOPICAL GLAUCOMA TREATMENT. Maria L. Veronese Rodrigues, Joao Marcello F.Furtado, Jayter S.Paula, Régia P. Lira, Edson G. Soares, Eduardo A. Donadi, Eduardo M. Rocha Medical School of Ribeirão Preto, University of São Paulo, Brazil

39 DRY EYE AND SECONDARY SJÖGREN'S SYNDROME IN MIXED CONNECTIVE TISSUE DISEASE (MCTD). Fany S. Usuba [1], Priscila Novaes[1], Milton R. Alves [1 1] Division of Ophthalmology, School of Medicine of the University of São Paulo, São Paulo, Brazil

40 CHRONICALLY DISTURBED IP_3 RECEPTOR-MEDIATED CA^{2+} SIGNALING IN EXOCRINE GLANDS CAUSES SJÖGREN'S SYNDROME-LIKE AUTOIMMUNE DISEASE. Takaaki Inaba[1, 2], Chihiro Hisatsune[2], Yasumasa Sasaki[1], Yoko Ogawa[1], Taishin Akiyama[3], Etsuko Ebisui[2], Naoko Ogawa[2], Minoru Matsui[4], Tsutomu Takeuchi[5], Katsuhiko Mikoshiba[2] & Kazuo Tsubota[1]/Department of Ophthalmology, Keio University School of Medicine [2]Laboratory for Developmental Neurobiology, Brain Science Institute, RIKEN [3]Division of Cellular and Molecular Biology, Department of Cancer Biology, Institute of Medical Science, University of Tokyo [4]Department of Pharmacy, Chiba Institute of Science [5]Department of Rheumatology, Keio University School of Medicine

41 A CASE OF IgG4-RELATED CHRONIC SCLEROSING DACRYOADENITIS. Mi Sun Sung, Joo Hwa Lee Sanggy-Paik Hospital, Inje University, Seoul, Korea

42 KERATITIS SUPERFICIALIS AFTER SURGICAL THERAPY OF TRIGEMINUSNEURALGIA. I. Boldin,[1] M. Trummer,[2] D. F. Rabensteiner,[1] J. Horwath-Winter.[1] Medical University Graz, Department of Ophthalmology, [1] Department of Neurosurgery, [2] Austria

43 A GENETIC ASSOCIATION OF IL 6 AND IL 6R GENES IN KOREAN DRY EYE PATIENTS. Kyung-Sun Na,[1, 2, 3,] Jee-Won Mok,[1,2] Choun-Ki Joo.[1, 2, 3]Laboratory of Ophthalmology and Visual Science, The Catholic University of Korea, [1]Korea Eye Tissue and Gene Bank, [2]Department of Ophthalmology and Visual Science, St. Mary's Hospital[3]Seoul, Korea

44 TH17 PROMOTING ENVIRONMENT IN THE LACRIMAL GLAND OF THROMBOSPONDIN-1 DEFICIENT MICE WITH OCULAR SURFACE DISEASE. Sharmila Masli, Bruce Turpie. Schepens Eye Research Institute, Harvard Medical School, Boston, MA

45 BONE MARROW MESENCHYMAL STEM CELLS TRIGGER PATHOGENIC FIBROSIS IN CHRONIC GRAFT VERSUS HOST DISEASE. Yoko Ogawa[1,3], Shigeto Shimmura[1], Satoru Morikawa[2,4] Yo Mabuchi[2], Tomonori Yaguchi[3], Sadafumi Suzuki, Takaaki Inaba[1], Yutaka Kawakami[3], Hideyuki Okano[2], Yumi Matsuzaki[2] , Kazuo Tsubota[1] [1]Department of Ophthalmology, [2]Department of Physiology, [3]Institute for Advanced Medical Research, Division of Cellular Signaling, [4]Department of

Dentistry and Oral Surgery, Keio University, School of Medicine

46 CXCR4 AND CXCR7 – TWO POTENTIAL RECEPTORS FOR TFF3 AT THE OCULAR SURFACE. Dieckow J[1], Schulze U[1], Paulsen F[2], [1]Department of Anatomy and Cell Biology, Martin Luther University Halle-Wittenberg, Halle, Germany, [2]Department of Anatomy II, Friedrich Alexander University Erlangen- Nuernberg, Germany

47 CYTOKINE CHANGES IN THE TEAR FLUID OF KERATOCONUS PATIENTS. Shukti Chakravarti, Leslie Cope and Albert Jun. Johns Hopkins School of Medicine

48 TEAR CYTOKINE PROFILES IN SJÖGREN SYNDROME AND IN NON-SJÖGREN DRY EYE. Sang Beom Han, MD, [1]Joon Young Hyon, MD,[1,2] Ji-Won Kwon, MD,[3] Won Ryang Lee, [2,4] MD,[1] Jin Hak Lee, MD.[1,2] Seoul National University Bundang Hospital[1] Seoul National University College of Medicine,[2] Seoul National University Hospital Healthcare System Gangnam Center,[3] Seoul National University Hospital, [4] Seoul, Korea

49 **Discussion:** QUANTIFICATION OF TEAR FILM INFLAMMATORY CYTOKINES IN SJOGREN'S DRY EYE. Michelle Senchyna,[1] Ravaughn Williams,[1] Nancy McNamara,[2] Michael Brubaker[1], Pavel Iserovich,[3] Robert Sack.[3] Alcon Research Ltd,[1] U California-San Fransisco,[2] SUNY School of Optometry.[3]

50 ELEVATED TEAR INTERLEUKIN-17 LEVELS IN SJÖGREN'S SYNDROME DRY EYE PATIENTS. Kyoung Yul Seo, Jong-Hyuck Lee, Sang Yep Lee, Sang Min Nam Yonsei university college of medicine, department of ophthalmology

51 DIURNAL, DIFFERENTIAL CONTROL OF BIOACTIVITY OF PR0-INFLAMMATORY CYTOKINES AND CHEMOKINES. R Sack, B Cooper, S Sathe, A Beaton, P Iserovich. SUNY

52 IS INFLAMMATION INVOLVED IN THE "TIRED EYE" RESPONSE? Mark DP Willcox, Percy Lazon de la Jara, Eric Papas, Jennie Diec, Zhenjun Zhao Brien Holden Vision Institute, Sydney, Australia

53 ENDOGENOUS SECRETORY GROUP IIA PHOSPHOLIPASE (sPLA2-IIa) AMPLIFIES INFLAMMATION AT THE OCULAR SURFACE. Penny Asbell, Yi Wei, Seth Epstein. Department of Ophthalmology, Mount Sinai School of Medicine of New York University, New York, NY 10029, USA

54 THE EFFECT OF CONTACT LENS WEAR ON THE DIURNAL PROFILE OF MATRIX METALLOPROTEINASE-9 AND ITS INHIBITOR IN THE TEAR FILM. Maria Markoulli,[1,2] Eric Papas,[1,2] Nerida Cole,[1,2] Brien Holden.[1,2 1] Brien Holden Vision Institute, Sydney, Australia [2] School of Optometry & Vision Science, University of New South Wales, Australia

55 TEAR MITOGEN LACRITIN RAPIDLY COUNTERS INFLAMMATORY STRESS IN HUMAN CORNEAL EPITHELIAL CELLS. Ningning Wang, Gordon W. Laurie Cell Biology, University of Virginia

56 OCULAR SURFACTANT PROTEINS AND THEIR REGULATION IN DRY EYE DISEASE.Martin Schicht , Andreas Posa , Friedrich Paulsen and Lars Bräuer Department of Anatomy and Cell Biology, Martin Luther University Halle-Wittenberg, Germany; Department of Anatomy II, Friedrich Alexander University Erlangen-Nürnberg, Germany

57 ALLERGIC MEDIATORS IN TEAR FROM CHILDREN WITH SEASONAL AND PERENNIAL ALLERGY. Tatiana Suárez [1], Ricardo Martinez[2], Javier Soria [1], Nerea Gonzalez [1], Arantxa Acera [1] 1. Bioftalmik Applied Research S.L. Technology Park, Building 800, 48160, Derio, Vizcaya, Spain.2. Hospital de Cruces, Baracaldo, Plaza Cruces-gurutzeta, 12, Vizcaya, Spain

58 IgE and ECP AS MARKERS OF SEVERITY IN DIAGNOSIS OF ATOPIC KERATOCONJUNCTIVITIS. Ayako Igarashi,[1]Tais Hitomi Wakamatsu,[2]Yoshiyuki Satake,[1]Yoji Takano,[3]Osama Ibrahim,[2]Naoko Okada,[2]Kazumi Fukagawa,[4]Murat Dogru,[2]Jun Shimazaki,[1]Kazuo Tsubota,[2]Hiroshi Fujishima[5]. Tokyo Dental College Ichikawa Hospital, Chiba, Japan [2] Keio University School of Medicine,Tokyo,Japan [3] Kitasato University School of Medicine,Tokyo, Japan [4] Ryogoku Eye Clinic,Tokyo,Japan [5] Saiseikai Central Hospital, Tokyo, Japan

59 THERAPEUTICAL USE OF A NEW BIODEGRADABLE DRUG DELIVERY SYSTEM FOLLOWING CORNEAL TRANSPLANTATION. J Schwartzkopff[1], A Hyatt[2], L Bredow[1], C Noack[1], P Eberwein[1], K Martin[2], T Reinhard[1] 1University Eye Hospital, Freiburg, Germany [2]Cambridge Centre for Brain Repair, University of Cambridge, United Kingdom

60 **Discussion:** DRY EYE AND *DEMODEX* BLEPHARITIS. Jae Chan Kim, Jee Taek Kim, Seok Hyun Lee, Yeoun Sook Chun. Department of Ophthalmology, College of Medicine, Chung-Ang University, Seoul, Korea

61 SEX DIFFERENCE IN INNATE ANTI MICROBIAL FACTORS IN RAT LACRIMAL GLAND. Lilian Eslaine Costa Mendes da Silva, Ana Carolina Dias, Carolina Maria Módulo, Stella Felippe de Freitas, a, Leonardo Tannus Malki, Eduardo Melani Rocha Department of Ophthalmology, Faculty of Medicine of Ribeirão Preto, USP, Ribeirão Preto, Brazil

62 DRY EYE MODULATES THE EXPRESSION OF ANTIMICROBIAL PEPTIDES ON THE OCULAR SURFACE. R. L. Redfern[1], W. Farley[2], C. S. De Paiva[2], S. C. Pflugfelder[2] and A. M. McDermott.[1] College of Optometry, University of Houston, Houston, Texas,[1] Baylor College of Medicine, Ocular Surface Center, Cullen Eye Institute, Houston, Texas[2]

63 TEAR FLUID REGULATION OF GENE EXPRESSION IN CORNEAL EPITHELIAL CELLS. J. Mun[1], C. Tam1, D. Evans[1,2] and S. Fleiszig[1]. UC Berkeley, CA[1]. Touro University, CA[2]

64 TRAVERSAL OF CORNEAL EPITHELIAL CELLS BY *P. AERUGINOSA*: BACTERIAL ADAPTATION REVEALS GENES THAT CONTRIBUTE TO THE PROCESS. Danielle Augustin[1], David Evans[1,2], Suzanne Fleiszig[1]. University of California, Berkeley, Berkeley, CA, USA[1]; College of Pharmacy, Touro University, Vallejo, CA, USA[2].

65 BACTERIAL INFECTION IN PRESUMED VIRAL INTERSTITIAL (STROMAL) KERATITIS. Suksri Chotikavanich[1], Pinnita Prabhasawat[1], Nattaporn Tesavibul[1], Amornrat leelaporn[2], Mongkol Uiprasertkul[3]. 1Department of Ophthalmology, 2Department of Microbiology, 3Department of Pathology, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand.

66 SPECIFIC SITE-DIRECTED MUTATIONS IN THE *STREPTOCOCCUS PNEUMONIAE* CORNEAL VIRULENCE FACTOR PNEUMOLYSIN ABROGATE LYTIC ACTIVITY AND CORNEAL EROSIONS. Sidney Taylor, Justin Thornton, Larry S. McDaniel, Melissa E. Sanders, Mary E. Marquart. Department of Microbiology, University of Mississippi Medical Center, Jackson, MS, USA

67 TOLL-LIKE RECEPTOR 2 IS INVOLVED IN CORNEAL DISEASE SEVERITY OF *STREPTOCOCCUS PNEUMONIAE* KERATITIS IN THE ABSENCE OF PNEUMOLYSIN. Nathan Tullos, Erin Norcross, Sid Taylor, Quincy Moore, Melissa Sanders, Mary E. Marquart. Department of Microbiology, University of Mississippi Medical Center, Jackson, MS, USA

68 ASSESSMENT OF *STREPTOCOCCUS PNEUMONIAE* CAPSULE IN CONJUNCTIVITIS AND KERATITIS *IN VIVO*: NEURAMINIDASE ACTIVITY INCREASES IN NONENCAPSULATED PNEUMOCOCCI FOLLOWING CONJUNCTIVAL INFECTION. Erin W. Norcross,[1] Nathan A. Tullos,[1] Sidney D. Taylor,[1] Melissa E. Sanders,[1] and Mary E. Marquart[1] Department of Microbiology[1], University of Mississippi Medical Center, Jackson, MS, USA

69 MOXIFLOXACIN AND CHOLESTEROL COMBINED TREATMENT OF PNEUMOCOCCAL KERATITIS. Melissa E. Sanders[1], Nathan A. Tullos[1], Sidney D. Taylor[1], Erin W. Norcross[1], Lauren B. King[1], Isaiah Tolo[1], and Mary E. Marquart[1]. [1]Department of Microbiology, University of Mississippi Medical Center, Jackson, MS 39216.

70 ANTIMICROBIAL SUSCEPTIBILITY OF OCULAR BACTERIAL PATHOGEN TO LEVOFLOXACIN, MOXIFLOXACIN, GATIFLOXACIN, AND CIPROFLOXACIN. Joon Young Hyon, Hung Won Tchah. Korean Corneal Disease Study Group

71 EFFICACY AND SAFETY ASSESSMENT OF A NOVEL UVC DEVICE IN TREATING CORNEAL BACTERIAL INFECTIONS. SJ Dean[1,] A Petty[1,] S Swift[1,] J McGhee[1,] A Sharma[2,] J Moore[3,] S Shah[4], JP Craig[11] Univeristy of Auckland, New Zealand; [2] Moorfields Bedford, UK; [3] Univeristy of Ulster, UK; [4] Birmingham Midlands Eye Centre, UK

72 CORNEAL ANTIMICROBIAL PEPTIDE EXPRESSION IN RESPONSE TO CANDIDA ALBICANS AND FUSARIUM SOLANI. Satya Sree Kolar, Hasna Baidouri, Wanyu Zhang, Alison M McDermott. University of Houston, College of Optometry, Houston, TX, 77204

73 DONOR-RELATED CANDIDA KERATITIS AFTER DESCEMET STRIPPING AUTOMATED ENDOTHELIAL KERATOPLASTY. Katsuya Yamazoe, Seika Den, Yoichi Tanaka, Kazuki Hotta, Jun Shimazaki 1)Kameda Medical Center 2)Tokyo Dental College

74 THE CORNEAL PROTECTIVE EFFECTS OF SILICON HYDROGEL SOFT CONTACT LENS WEAR FROM UV-B EXPOSURE AND OXIDATIVE STRESS Murat Dogru, [1,2], Ibrahim Osama,[1,3] Tais Wakamatsu,[1,3] Takashi Kojima, [1,3],Yukihiro Matsumoto,[1,3], Kazuno Negishi, [3], Jun Shimazaki,[2]Yasuo Matsumoto,[4] Hiroshi Sasaki,[4] Kazuo Tsubota[3] 1) J&J Ocular Surface and Visual Optics Dept, Keio University School of Medicine 2) Dept. of Ophthalmology, Tokyo Dental College School of Medicine 3) Dept. of Ophthalmology, Keio University School of Medicine 4) Dept. of Ophthalmology, Kanazawa Medical University

75 DO CONTACT LENSES ELEVATE TEAR OSMOLARITY IN THE TYPICAL LENS WEARER? Alan Landers, Mary Mowrey-McKee, Walter Nash, Robert Scott, CIBA VISION Corporation, Atlanta, GA.

76 THE EFFECT OF RIGID GAS PERMEABLE AND SOFT CONTACT LENS WEAR ON OCULAR SURFACE TEMPERATURE. Sachiko Nishimura[1,2], Paul J Murphy[1], Christine Purslow[1] [1]CardiffUniversity, School of Optometry and Vision Sciences, Cardiff, UK, [2]Menicon, Japan

77 ADHESION OF TRANSFERRIN AND ALBUMIN TO FDA GROUP II OMAFILCON CONTACT LENSES. Darshan Solanki, Sophia Cuprillnilson, Brooke Liberman, Andrea Janoff, Edward O. Keith Nova Southeastern University

78 LIPID PENETRATION INTO CONTACT LENSES: A CONFOCAL MICROSCOPY VIEW. J. Jacob, J. Guinn, T. Edwards Louisiana State University Health Sciences Center, Dept of Ophthalmology, New Orleans, LA

SESSION III

Ocular Surface Regeneration & Reconstruction

Chairpersons - Dimitri T. Azar (USA), Victor L. Perez (USA) & Jose Ricardo (Brazil)

8:00 **Keynote Address:** MOUSE LACRIMAL GLAND IS A REGENERATABLE ORGAN. Masataka Ito, Department of Developmental Anatomy and Regenerative Biology, National Defense Medical College, Saitama, Japan

8:25 **Keynote Address:** REGENERATIVE MEDICINE OF THE OCULAR SURFACE. Paolo Rama, M.D., Stanislav Matuska, M.D., Giorgio Paganoni, M.D., Alessandra Spinelli, M.D., Michele De Luca, M.D., and Graziella Pellegrini, Ph.D. San Raffaele Scientific Institute, Ophthalmology Unit, Milan (P.R., S.M., G.P., A.S.); and the Center for Regenerative Medicine Stefano Ferrari, University of Modena and Reggio Emilia, Modena, Italy (M.D.L., G.P.).

8:50 **Keynote Address:** OCULAR SURFACE RECONSTRUCTION. Shigeto Shimmura. Department of Ophthalmology, Keio University School of Medicine

9:15 MICRO-ENGINEERED SILK BIOMATERIALS FOR OCULAR SURFACE RECONSTRUCTION. MI Rosenblatt, BD Lawrence, Z Pan Margaret M. Dyson Vision Research Institute, Department of Ophthalmology, Weill Cornell Medical College, New York, NY

9:30 ANALYZATION OF LONG TERM CULTURED LACRIMAL GLAND STEM CELLS. Philipp Ackermann,[1] Anja Richter,[2] Friedrich Paulsen [1,3] Department of Anatomy and Cell Biology, Martin Luther University Halle-Wittenberg, Halle, Germany [1]; Fraunhofer Insitute of Marine Biotechnology, Fraunhofer Institute, Lübeck, Germany [2]; Department of Anatomy II, Friedrich Alexander University Erlangen-Nürnberg, Erlangen, Germany [1,3]

9:45 **Poster Session III (with Coffee & Tea)**

Drug, Preservative and Contact Lens Solution Interactions with the Tear Film & Ocular Surface

Chairpersons - Maria Markoulli (Australia), Teruo Nishida (Japan) & John L. Ubels (USA)

10:20 **Keynote Address:** EFFECTS OF TOPICAL DRUG PRESERVATIVES ON THE TEAR FILM AND OCULAR SURFACE. Christophe Baudouin, Quinze-Vingts National Ophthalmology Hospital, Vision Institute, University Paris 6, Paris, France

10:45 **Keynote Address:** CONTACT LENS SOLUTIONS: WHERE NEXT? Lyndon Jones, School of Optometry Associate Director, Centre for Contact Lens Research University of Waterloo Ontario, Canada

11:10 SUITABILITY OF A LIPOSOMAL DRY EYE SPRAY FOR USE IN SILICONE HYDROGEL CONTACT LENS WEAR. Jennifer P. Craig[1], Trisha Albuquerque[2], Chee Seang Loh[2], Varny Ganesalingam[2], Suhaila Al-Kanani[2], Stuti Misra[1] New Zealand National Eye Centre, Departments of [1]Ophthalmology and [2]Optometry and Vision Science, University of Auckland, New Zealand

11:25 IN VITRO CYTOTOXICITY OF HYDROGEN PEROXIDE TO CORNEAL EPITHELIAL CELLS JL Ubels, DS Mlnarik, BJ Konynenbelt Department of Biology, Calvin College, Grand Rapids, MI, USA

11:40 MODIFICATION OF THE TEAR FILM OSMOLARITYWITH THE USE OF CONTACT LENSES IN OMAFILCONA AND METHAFILCONA MATERIALS. Montani Giancarlo, University Of Salento Formazione Continua In Medicina, Lecce, Italy

11:55 **Poster Viewing & Lunch**

Poster Discussion III

Chairpersons - Darren G. Gregory (USA), Maryam Mokhtarzadeh (USA) & E. Ian Pearce (UK)

13:25 TRANSPLANTATION OF CONJUNCTIVAL EPITHELIAL CELLS CULTIVATED EX VIVO INPATIENTS WITH TOTAL LIMBAL STEM CELL DEFICIENCY. Jose RS Ricardo[1,2,] Jose AP Gomes[1,2,] Ocular Surface Advanced Center (CASO),[1] Cornea and External Disease Service, Department of Ophthalmology, Federal University of São Paulo, São Paulo, Brazil[2]

13:30 IN VIVO CONFOCAL MICROSCOPY OF MEIBOMIAN GLANDS IN SJOGREN'S SYNDROME. Edoardo Villani, Michela De Capitani, Silvia Beretta, Daniela Galimberti, Francesco Viola, Roberto Ratiglia. Clinica Oculistica Università degli Studi di Milano. Fondazione IRCCS Ca'Granda Ospedale Maggiore Policlinico, Milan, Italy.

13:35 EFFICACY EVALUATION OF A NOVEL EMULSION BASED, ANIONIC PHOSPHOLIPID CONTAINING ARTIFICIAL TEAR IN MEIBOMIAN GLAND DYSFUNCTION (MGD) SUBJECTS. Gary Foulks[1], Chris Sindt[2], Joe Griffin[3],

[1]Kentucky Lions's Eye Center, Lexington KY, [2]U of Iowa, Iowa City IA, [3]Alcon Research Ltd, Ft Worth, TX.

13:40 TOPICAL JAK INHIBITOR, TASOCITINIB (CP-690,550), MODULATES OCULAR SURFACE INFLAMMATION IN DRY EYE. Jing-Feng Huang, Rolla Yafawi, Min Zhang, Michael McDowell, Kay D Rittenhouse, Frederick Sace, Melissa Liew, Scott R Cooper, Eve H Pickering. Pfizer Inc., San Diego, CA, USA

Macro to Micro: New Imaging Approaches for Understanding the Ocular Surface

Chairpersons - Shukti Chakravarti (USA), Thomas Fuchsluger (USA) & Jianhua Wang (USA)

13:45 **Keynote Address:** OCULAR SURFACE IMAGING. Nathan Efron, Nicola Pritchard, Munira Al-Dossari. Institute of Health and Biomedical Innovation, and School of Optometry, Queensland University of Technology, Kelvin Grove, Queensland, Australia

14:10 **Keynote Address:** EXOCYTIC MACHINERY REVEALED BY HIGH RESOLUTION INTRAVITAL MICROSCOPY IN LIVE ANIMALS. Roberto Weigert Intracellular membrane Trafficking Unit, Oral and Pharyngeal Cancer Branch National Institute for Dental and Craniofacial Research National Institute of Health, Bethesda, MD USA

14:35 EPITHELIAL IRREGULARITY FACTOR (EIF): A NEW DIAGNOSTIC CRITERION FOR THE DIAGNOSIS OF DRY EYE SYNDROME. Victor L. Perez, Mohamed Abou Shousha, William Feuer, Anat Galor and Jianhua Wang. Bascom Palmer Eye Institute, University of Miami Miller School of Medicine

14:50 NON-INVASIVE IMAGING OF KEY PLAYERS IN OCULAR SURFACE INFLAMMATION. P. Steven[1,2], S. Siebelmann[1], A. Gebert[2], G. Huettmann[3], R. Orzekowsky-Schroeder[3], N. Koop[3], U. Gehlsen[1,2] [1]Department of Ophthalmology, [2]Institute of Anatomy, [3]Institute of Biomedical Optics, University of Luebeck, Germany

15:05 A UNIQUE OCULAR SURFACE INTERFEROMETER (OSI) TO MEASURE DYNAMIC LIPID LAYER THICKNESS (LLT). T.Willis[1], S.M. Grenon[1], D.R. Korb[1,2], C.A. Blackie[1,2], W. Weber[3], R. Chinnock[3]. [1]TearScience, Morrisville, NC; [2]Korb Associates, Boston, MA; [3]Optimum Technologies, Southbridge, MA

15:20 **Poster Session III (with Coffee & Tea)**

New & Emerging Diagnostics & Treatments

Chairpersons - José Alvaro P. Gomes (Brazil), Stefan Schrader (UK) & Jun Shimazaki (Japan)

15:55 **Keynote Address:** EMERGING PARADIGMS FOR CORNEAL REPLACEMENT: THE FUTURE OF KERATOPROSTHESIS SURGERY. James Chodosh, MD, MPH Massachusetts Eye and Ear Infirmary – Harvard Medical School, Boston, MA, USA

16:20 **Keynote Address:** RELEVANCE OF TEAR FILM PROTEOMICS IN THE DIAGNOSIS OF DISEASE. F. Grus. Experimental Ophthalmology, Dept. of Ophthalmology, University Medical Center, Johannes-Gutenberg-University Mainz, Germany

16:45 **Keynote Address:** POLYMER NANOMATERIALS FOR THERAPEUTIC DRUG DELIVERY. Alexander V. Kabanov. Center for Drug Delivery and Nanomedicine, College of Pharmacy, University of Nebraska Medical Center, Omaha, Nebraska, USA

17:10 PREDICTORS OF SJÖGREN'S SYNDROME IN PATIENTS WITH DRY EYE Esen K. Akpek, M.D. [1]; Ramya Swamy, MPH[1]; Canan Asli Utine, M.D., M.S. [1, 2], Jennifer Thorne, M.D.[1], Alan N. Baer, M.D.[3], [1]The Wilmer Eye Institute, The Johns Hopkins University School of Medicine, Baltimore, Maryland. [2] Yeditepe University Eye Hospital, Istanbul, Turkey. [3]Division of Rheumatology, Department of Medicine, The Johns Hopkins University School of Medicine, Baltimore, Maryland

17:25 DISTRIBUTION OF AQUEOUS DEFICIENT AND EVAPORATIVE DRY EYE IN A GENERAL PATIENT POPULATION. Benjamin D. Sullivan[1], Michael A. Lemp[7]. [1]TearLab Corp., San Diego, CA; [2]Georgetown University Department of Ophthalmology, Washington DC, USA

17:40 – 18:40 **Poster Session III (with Wine & Hors d'oeuvres)**

Closing Session

Chairperson: Carlos Belmonte (Spain)

18:40 Academic perspective: Sarah F. Hamm-Alvarez (USA)

18:45 Clinical perspective: Jason J. Nichols (USA)

18:50 Industry perspective:: Melissa Liew (USA)

Closing Remarks

18:55 *Carlos Belmonte (Spain)*

Poster Session III

Chairpersons - Darren G. Gregory (USA), Maryam Mokhtarzadeh (USA) & E. Ian Pearce (UK)

1 DRY EYE AFTER 20 AND 25 GAUGE VITRECTOMY C.Fabiani, S.Barile, JM Rakic, M. De Zanet. CHU, LIEGE - BELGIUM

2 A CASE OF GRANULOMA FORMATION AFTER CORNEAL REFRACTIVE SURGERY IN STEVENS-JOHNSON SYNDROME Eung Kweon Kim, MD, PhD,[1-3]Kyung Eun Han, MD,[1] Jae Hoon Kim, MD,[1] Sang Min Nam, MD,[1] Tae-im Kim, MD, PhD,[1] Kyung Ryul Seo, MD, PhD[1]. [1]Corneal Dystrophy Research Institute, Department of Ophthalmology, Yonsei University College of Medicine, Seoul, Korea, [2]Severance Medical Research Institute, Yonsei University College of Medicine, [3]Brain Korea 21 Project for Medical Science, Yonsei University, Seoul, Korea

3 THE OPHTHALMOLOGIC EVALUATION AND MANAGEMENT OF ACUTE STEVENS-JOHNSON SYNDROME: A COMPREHENSIVE APPROACH. Darren G. Gregory. University of Colorado, Denver, USA

4 EFFICACY OF SURGERY FOR CONJUNCTIVOCHALASIS WITH SUBJECTIVE AS WELL AS OBJECTIVE SYMPTOMS. Hitoshi Watanabe[1,2]Sizuka Koh[2], Yuichi Hori[1] Kansai Rosai Hospital[1], Osaka University Medical School[2]

5 AMNIOTIC MEMBRANE TRANSPLANTATION: OUR EXPERIENCE. Soniya Bhala, Sudesh Kumar Arya, Archana Malik, Sunandan Sood Department of Ophthalmology, Government Medical College and Hospital, Chandigarh, India

6 LONG TERM CLINICAL RESULTS OF LIMBAL CONJUNCTIVAL AUTOGRAFT VERSUS AMNIOTIC MEMBRANE TRANSPLANTATION IN PTERYGIUM SURGERY. Hyung Joon Kim, Sin Hoo Kim. Department of Ophthalmology, Catholic University of Daegu, Daegu, Korea

7 EFFECTS OF AMNIOTIC MEMBRANE SUSPENSION IN HUMAN CORNEAL WOUND HEALING IN VITRO. Choun-Ki Joo. Department of Ophthalmology and Visual Science, Seoul St. Mary\'s Hospital, College of Medicine, the Catholic University of Korea

8 **Discussion:** TRANSPLANTATION OF CONJUNCTIVAL EPITHELIAL CELLS CULTIVATED EX VIVO INPATIENTS WITH TOTAL LIMBAL STEM CELL DEFICIENCY. Jose RS Ricardo[1,2,] Jose AP Gomes[1,2,] Ocular Surface Advanced Center (CASO),[1] Cornea and External Disease Service, Department of Ophthalmology, Federal University of São Paulo, São Paulo, Brazil[2]

9 OUTCOME OF TRANSPLANTATION OF CULTIVATED ORAL MUCOSAL EPITHELIAL SHEETS PREPARED WITH FIBRIN-COATED CULTURE DISHES. Jun Shimazaki, Masatoshi Hirayama, Takefumi Yamaguchi, Yoshiyuki Satake INSTITUTIONS: Department of Ophthalmology, Tokyo Dental College

10 DEVELOPMENT OF A SERUM FREE AND XENOBIOTIC FREE SURROGATE CULTURE SYSTEM FOR HUMAN LIMBAL EPITHELIAL STEM CELL THERAPY. Schrader S[1,2,3,] Tuft SJ[2], Beaconsfield M[2], Geerling G[4], Daniels JT[1,2], Notara M[1]. [1]UCL Institute of Ophthalmology, London, UK, [2]Moorfields Eye Hospital NHS Foundation Trust, London, UK, [3]Department of Ophthalmology, University of Luebeck, Germany, [4]Department of Ophthalmology, Julius-Maximilian-University Wuerzburg, Germany

11 CLUSTERIN PROMOTE CORNEAL/LIMBAL EPITHELIAL GROWTH THROUGH EPITHELIAL-MESENCHYMAL INTERACTION. [1]Naoko Okada, [1,3]Tetsuya Kawakita,[2]Kenji Mishima,[2]Ichiro Saito,[1,3]Hideyuki Miyashita, [1,3]Shigeto Shimmura, [1,3]Kazuo Tsubota[1]Department of Ophthalmology, Keio University School of Medicine, Tokyo, JAPAN and [2]Department of Pathology, Tsurumi University, [3]Department of Ophthalmology, Tokyo Dental College, Chiba, JAPAN

12 POTENTIAL LOCALIZATION OF PUTATIVE STEM/PROGENITOR CELLS IN HUMAN BULBAR CONJUNCTIVAL EPITHELIUM Hong Qi[1,2], Xiaofen Zheng[1], Xiaoyong Yuan[1], Stephen C. Pflugfelder[1],De-Quan Li[1* 1]Ocular Surface Center, Cullen Eye Institute, Department of Ophthalmology, Baylor College of Medicine, Houston, Texas [2]Peking University Third Hospital, Department Ophthalmology,Beijing, China

13 ISOLATION AND PROPAGATION OF MESENCHYMAL STEM CELLS FROM THE LACRIMAL GLAND. Samantha You, Claire Kublin and Driss Zoukhri Tufts University School of Dental Medicine and Departments of Neuroscience, Tufts University School of Medicine, Boston, MA

14 CELLULAR FACTOR XIII, A TRANSGLUTAMINASE, IS PRESENT IN THE CORNEAL STROMA. Zsuzsanna Z. Orosz,[1] Helga Bárdos,[2] Andrea Facskó,[3] András Berta,[3] Róza Ádány,[2] László Muszbek.[1,4] Clinical Research Center,[1] Department of Preventive Medicine,[2] Department of Ophthalmology[3] and Thrombosis, Hemostasis and Vascular Biology Research Group of the Hungarian Academy of Sciences,[4] University of Debrecen, Medical and Health Science Center, Debrecen, Hungary

15 TRANSGLUTAMINASE-2 DEPENDENCE IN HYPEROSMOLARITY-INDUCED MITOCHONDRIAL DYSFUNCTION. Evelyn Png,[1] Shyam S. Chaurasia,[1] Louis Tong.[1,2,3] Singapore Eye Research Institute,[1] Singapore National Eye Center,[2] Duke-

NUS Graduate Medical School, Singapore[3]

16 EFFECT OF MELATONIN AND ANALOGUES ON CORNEAL WOUND HEALING: INVOLVEMENT OF MT_2 MELATONIN RECEPTOR. Assumpta Peral, Ana Guzmán-Aranguez, Almudena Crooke and Jesús Pintor University Complutense of Madrid, School of Optics

17 POTENTIAL ROLE OF TFF3 IN CORNEAL WOUND HEALING. U. Schulze,[1] L. Contreras Ruiz,[2] A. López,[2] N. Barker,[3] Y. Diebold,[2] F. Paulsen[1],[4]. Department of Anatomy and Cell Biology , Martin Luther University Halle, Germany,[1] IOBA University of Valladolid, Spain,[2] GI Company, Framingham, USA,[3] Department of Anatomy II, Friedrich Alexander University Erlangen, Germany[4]

18 RELAXIN 2 AND INSL3 PROMOTE WOUND HEALING AT THE OCULAR SURFACE. Ulrike Hampel,[1] Thomas Klonisch,[2] Saadettin Sel,[3] Friedrich Paulsen.[1] Departments of Anatomy and Cell Biology,1 Ophthalmology,[3] Martin Luther University of Halle-Wittenberg, Halle/Saale, Germany; Department of Human Anatomy and Cell Science and Department of Medical Microbiology and Infectious Diseases[2], University of Manitoba, Winnipeg, Manitoba, Canada

19 DIFFERENTIAL EFFECT OF INDIVIDUAL ELECTROLYTES ON CORNEAL EPITHELIAL BARRIER FUNCTION DURING HYPEROSMOTIC STRESS. Ashley Woodward,[1] Michelle Senchyna,[3] Pablo Argüeso.[1,2] Schepens Eye Research Institute,[1] Harvard Medical School,[2] Boston, MA, USA, Alcon Research, Ltd.,[3] Fort Worth, TX, USA

20 SELENOPROTEIN P CONTROLS OXIDATIVE STRESS IN CORNEA. Akihiro Higuchi[1], Kazuhiko Takahashi[2], Kazuo Tsubota [1,3]. [1]Center for Integrated Medical Research, School of Medicine, Keio University, Tokyo, Japan. [2]Department of Nutritional Biochemistry, School of Pharmacy, HokkaidoPharmaceutical UniversityHokkaido, Japan. [3]Department of Ophthalmology, Schoolof Medicine, KeioUniversity, Tokyo, Japan

21 PROTECTIVE EFFECT OF AMINO ACIDS AND COMMERCIAL OPHTHALMIC INGREDIENTS ON 4-HYDROXYNONENAL-INDUCED CYTOTOXICITY IN HUMAN CORNEAL EPITHELIAL CELLS. Takahiro Kurose[1, 2], Kazuhiro Tsuji[2], Takayuki Miyano[1, 2], Yoichi Honma[2], Norihiko Yokoi [1] and Shigeru Kinoshita[1] Kyoto Prefectural University of Medicine, [1] Kyoto, Japan; Rohto pharmaceutical co., Ltd, [2] Kyoto, Japan

22 TREATMENT OF PERSISTENT CORNEAL EPITHELIAL LESIONS AFTER VITREOUS SURGERY BY PUNCTAL PLUG OCCLUSION. Miki Sakata, [1,2] Hirotsugu Ogura[2], Wakita Eye Clinic[1] ,Tokyo, Kozawa Eye Hospital and Diabetes Center [2], Mito, JAPAN

23 EXPRESSION OF MATRIX METALLOPROTEINASES 7 AND 14 IN UV IRRADIATED CORNEA Taras Ardan, Jitka Cejkova. Institute of Experimental

Medicine, Academy of Sciences of the Czech Republic

24 INHIBITION OF UVB ACTIVATION OF SEK1/MKK4 AND JNK1 IN CORNEAL EPITHELIAL CELLS BY ELEVATED EXTRACELLULAR K^+ JL Ubels, MP Schotanus, LR Koetje, JL Louters Department of Biology, Calvin College, Grand Rapids, MI, USA

25 LONGTERM CHANGES OF BUT AND CORNEAL SENSITIVITY FOLLOWING LASIK AT MIDDLE AGE. Woo Chan Park, Jae Kwan Park, Ki Sung Park, Byung Moo Min. Dept. of Ophthalmology, Dong-A University, Busan, Korea

26 CORNEAL SENSATION AND LACRIMAL SECRETION BEFORE AND AFTER DESCEMET STRIPPING AUTOMATED ENDOTHELIAL KERATOPLASTY. Yumiko Tamari,Yukari Imai,Takefumi Yamaguchi,Kenji Konomi,Seika Den,Yoshiyuki Satake,Jun Shimazaki Department of Ophthalmology,Tokyo Dental Collage Ichikawa General Hospital

27 ALTERATIONS IN TEAR SECRETION, CORNEAL SENSITIVITY AND WOUND HEALING IN DIABETIC RATS. Fu-Shin Yu, Jia Yin and Keping Xu Kresge Eye Institute, Wayne State University School of Medicine

28 MANAGEMENT OF CORNEAL MELTING IN BOSTON KERATOPROSTHESIS WITH BIOCOMPATIBLE MATERIALS Arturo E. Grau (MD)[1], Jaime Etxebarria (MD) [1, 2] INSTITUTIONS:[1]Instituto Clínico-Quirúrgico de Oftalmología, [2] Hospital de Cruces, Bilbao, Vizcaya, Spain

29 TOXICOLOGICAL COMPARISON OF TRAVOPROST BAK-FREE, TRAVOPROST BAK-PRESERVED, AND LATANOPROST BAK-PRESERVED OPHTHALMIC SOLUTIONS IN HUMAN CONJUNCTIVAL EPITHELIAL CELLS. Brignole-Baudouin F,[1-5]Riancho L,[1-3] Liang H,[1-4] Baudouin C.[1-4] 1VISION INSTITUTE INSERM, U968, [2]UPMC Paris 6, [3]CNRS, UMR_7210, [4]QUINZE-vINGTS NATIONAL HOSPITAL, [5]Université Paris 5, Paris, France

30 IN VIVO ASSESSMENT OF THE OCULAR SURFACE EFFECTS OF TRAVOPROST BAK-FREE VERSUS BAK-PRESERVED TRAVOPROST AND LATANOPROST OPHTHALMIC SOLUTIONS. Liang H[1,2,3,4], Brignole-audouin F[1,2,3,4,5], Riancho L[1,2,3,] Baudouin C[1,2,3,4.] [1]INSERM, U968, [2]UPMC Paris 06, [3]CNRS, UMR_7210, [4]CHNO des XV-XX, [5]Université Paris Descartes,Paris, France

31 IN VIVO CONFOCAL MICROSCOPY ANALYSIS OF EFFECTS OF SYSTEMIC ISOTRETINOIN TREATMENT ON CORNEAL INNERVATION AND MORPHOLOGY Yonca A Akova, Sevda Metindoğan, Aylin Karalezli, Department of Ophthalmology, Baskent University, TURKEY

32 IN VIVO VISUALIZATION OF PRE-CORNEAL TEAR FILM IN DRY EYE PATIENTS. Jianhua Wang, MD, PhD,[1.2] Lele Cui, MD[1,3] Victor L. Perez, MD, Meixiao Shen, MSc,[1] Michael R. Wang, PhD[2] [1]Bascom Palmer Eye Institute,

University of Miami Miller School of Medicine [2]Electrical and Computer Engineering, University of Miami [3]School of Ophthalmology and Optometry, Wenzhou Medical College

33 IN VIVO IMAGING OF TEAR FILM AND OCULAR SURFACE IN MEIBOMIAN GLAND DYSFUNCTION USING ULTRA HIGH RESOLUTION ANTERIOR SEGMENT OPTICAL COHERENCE TOMOGRAPHY (UHR-OCT). Mohamed Abou Shousha, Jiahuang Wang and Victor L. Perez Bascom Palmer Eye Institute, University of Miami, Miller School of Medicine, USA

34 MORPHOLOGIC EVALUATION OF MEIBOMIAN GLANDS IN CHRONIC GRAFT-VERSUS-HOST DISEASE USING IN VIVO LASER CONFOCAL MICROSCOPY Yumiko Ban,[1,2]Yoko Ogawa,[1]Osama M.A. Ibrahim,[3]Yukako Tatematsu,[1]Murat Dogru,[3]Kazuo Tsubota[1]. Department of Ophthalmology, School of Medicine, Keio University, Tokyo, Japan[1] Department of Ophthalmology, Hino Municipal Hospital, Tokyo, Japan[2] Johnson and Johnson Ocular Surface Visual Optics Department, School of Medicine, Keio University, Tokyo, Japan[3]

35 **Discussion:** IN VIVO CONFOCAL MICROSCOPY OF MEIBOMIAN GLANDS IN SJOGREN'S SYNDROME. Edoardo Villani, Michela De Capitani, Silvia Beretta, Daniela Galimberti, Francesco Viola, Roberto Ratiglia. Clinica Oculistica Università degli Studi di Milano. Fondazione IRCCS Ca'Granda Ospedale Maggiore Policlinico, Milan, Italy.

36 PERFORMANCE OF MEIBOMETRY IN ASSESSING MEIBOMIAN GLAND DYSFUNCTION. P. Versura, A. Bron*, V. Profazio, M. Ortolani, C. Coslovi, EC Campos Ophthalmology Unit, University of Bologna, Italy and *Nuffield Laboratory of Ophthalmology, Oxford University, UK

37 SODIUM FLUORESCEIN STAINING OF CORNEAL EPITHELIAL CELLS IN RESPONSE TO WOUNDING: AN *IN-VITRO* EVALUATION. Kalika Bandamwar[1,2], Qian Garrett[1,2] and Eric B Papas[1,2] Brien Holden Vision Institute.[1] School of Optometry and Vision Science, University of New South Wales, Sydney, Australia.[2]

38 WHAT STAINS WITH FLUORESCEIN IN PUNCTATE EPITHELIAL EROSIONS? Maryam Mokhtarzadeh[1], Richard Casey[1], Ben J. Glasgow[1]. [1]Jules Stein Eye Institute, University of California Los Angeles

39 QUANTITATIVE ANALYSIS OF CORNEAL STAINING. Montani Giancarlo, Romano Francesco Institutions: Università Del Salento Formazione Continua In Medicina, Lecce, Italy

40 REPEATABILITY OF GRADING OF REAL EYES VERSUS GRADING OF PHOTOGRAPHS. Heiko Pult[1,2,] Christine Purslow[2], Paul J Murphy[2], Russels L Woods[3] [1]Optometry and Vision Research, Weinheim, Germany, [2]Contact Lens & Anterior Eye Research Unit (CLAER), School of Optometry and Vision Sciences, Cardiff University, UK, [3]Schepens Eye Research Institute, Harvard Medical School,

Boston, USA

41 THE ENHANCED CONTROLLED ADVERSE ENVIRONMENT (ECAE) SYSTEM INCREASES WITHIN-SUBJECT RELIABILITY. George W. Ousler III, Joel Naor, Donna Welch, Patrick Johnston, Keith J. Lane. Ora, Inc

42 SCREENING MODEL FOR NOVEL THERAPEUTICS FOR DRY EYE SYNDROME IN A NON-HUMAN PRIMATE. Crawford, KS[1], Torkildsen, G[1], Ousler, GW[1], Lawrence, M[2], Goody, R[2], Campion BK[1], Naor, J[1] [1]Ora, Inc., [2]RxGen Inc.

43 A NEW MODIFIED FLUORESCEIN STRIP: IT'S REPEATABILITY AND USEFULNESS IN TEAR FILM BREAK-UP TIME ANALYSIS. Heiko Pult[1,2], Britta Riede-Pult[1] [1]Optometry and Vision Research, Weinheim, Germany [2]Contact Lens & Anterior Eye Research Unit (CLAER), School of Optometry and Vision Sciences, Cardiff University

44 NORMAL VALUES FOR LISSAMINE GREEN STAINING OF THE OCULAR SURFACE. Christine Purslow & Rachel Tinsley School of Optometry & Vision Sciences, Cardiff University, Cardiff, United Kingdom

45 VARIABILITY OF THE SCHIRMER TEST RESULTS. Hiroko Yamagami, Ayumi Ota, Nozomi Kinoshita, Fumihiko Toyoda and Akihiro Kakehashi. Department of Ophthalmology Jichi medical university, Saitama Medical Center, Saitama, Saitama, Japan

46 EVALUATION OF METHODS EMPLOYED FOR THE QUANTITAION OF TEAR SECRETION. Michelle Senchyna,[1] Ravaughn Williams,[1] Carolyn Begley,[2] Kelly K. Nichols,[3] Sruthi Srinivasan,[3] Jenny Devenport,1 Michael Brubaker.[1] Alcon Research Ltd,[1] Indiana University School of Optometry, [2] The Ohio State University College of Optometry.[3]

47 LACK OF CORRELATION OF COMMONLY USED TESTS FOR THE ASSESSMENT OF SEVERITY OF DRY EYE DISEASE. Benjamin D. Sullivan[1], Anthony J. Bron[2], Christophe Baudouin[3], Gary N. Foulks[4], Kelly K. Nichols[5], Alan Tomlinson[6], Michael S. Berg[1], Michael A. Lemp[7]. [1]TearLab Corp. [2]University of Oxford [3]Quinze-Vingts National Ophthalmology Hospital [4]University of Louisville [5]The Ohio State University [6]Glasgow Caledonian University [7]Georgetown University

48 EVALUATION OF CORNEAL STAINING IN A HEALTHY, NON-DRY EYE POPULATION. Ravaughn Williams,[1] Judy Vittitoe,[1] Michael Brubaker,[1] Michelle Senchyna,[1] Gary Foulks.[2] Alcon Research Ltd,[1] Fort Worth, TX, USA; University of Louisville,[2] Louisville, KY, USA

49 GENDER DIFFERENCES IN DRY EYE DISEASE IMPACT, MANAGEMENT, PATIENT SATISFACTION, AND COMORBID CONDITIONS. Debra A. Schaumberg,[1] Jim Li[2] [1]Div of Preventive Med, Brigham & Women's Hospital,

Harvard Medical School, Boston MA; [2] Outcomes Research, Pfizer, Inc., San Diego CA

50 DOES OCULAR IMPRESSION TAKING CAUSE DISTORTION OF THE OCULAR SURFACE? Jennifer Turner, Matthew Dobson, Paul J Murphy, Christine Purslow School of Optometry & Vision Sciences, Cardiff University, United Kingdom

51 THE ENVIRONMENTALLY INDUCED DRY EYE – EXISTING FINDINGS AND CURRENT ASPECTS. Dieter F. Rabensteiner, Jutta Horwath-Winter, Otto Schmut. Department of Ophthalmology, Medical University of Graz, Austria

52 QUANTIFICATION OF FORCES OF MEIBOMIAN GLAND EXPRESSION RELATED TO TYPE OF EXPRESSION AND PAIN. D.R. Korb[1,2], C.A. Blackie [2,1]. [1]TearScience, Morrisville, NC; [2]Korb Associates, Boston, MA

53 A NOVEL THERMAL PULSATION AND INNER EYELID HEAT APPLICATION FOR THE TREATMENT OF OBSTRUCTIVE MEIBOMIAN GLAND DYSFUNCTION. D.R. Korb[1,2], LipiFlow Study Group[2]. [1]Korb Associates, Boston, MA; [2]TearScience, Morrisville, NC

54 INCREASING THE BLINKING RATE USING THE "PISC" DEVICE FOR PATIENTS WITH EVAPORATIVE DRY EYE. Danielle L. Miura, Rossen M. Hazarbassanov, Camila K.N. Yamasato, Jose A.P. Gomes. Department in Ophthalmology and Visual Science, Federal University of Sao Paulo, Sao Paulo, SP, Brazil

55 **Discussion:** EFFICACY EVALUATION OF A NOVEL EMULSION BASED, ANIONIC PHOSPHOLIPID CONTAINING ARTIFICIAL TEAR IN MEIBOMIAN GLAND DYSFUNCTION (MGD) SUBJECTS. Gary Foulks[1], Chris Sindt[2], Joe Griffin[3], [1]Kentucky Lions's Eye Center, Lexington KY, [2]U of Iowa, Iowa City IA, [3]Alcon Research Ltd, Ft Worth, TX.

56 EFFICACY OF AZITHROMYCIN 1.5% EYE DROPS IN CHILDHOOD OCULAR ROSACEA. Serge Doan, Melissa Touati, Muriel Catanese, Isabelle Cochereau, Eric Gabison, Hopital Bichat and Fondation A de Rothschild, Paris, France

57 RANDOMIZED STUDY OF THE EFFICACY OF 0.05% CYCLOSPORINE OPHTHALMIC EMULSION IN THE TREATMENT OF MEIBOMIAN GLAND DYSFUNCTION. Pinnita Prabhasawat, Nattaporn Tesavibul, Wannaree Mahawong, Department of Ophthalmology, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand

58 MULTICENTER, RANDOMIZED, CONTROLLED, DOUBLE-MASKED, CROSSOVER STUDY ON EFFICACY AND SAFETY OF CYCLOSPORINE A EYE-DROP TREATMENT IN VERNAL KERATOCONJUNCTIVITIS (VKC). M Sacchetti MD, PhD[1], A Lambiase MD, PhD [1], A Leonardi MD[2], V Deligianni MD, PhD[2], F. Mantelli MD[1], S Bonini MD1. [1] Dept. Ophthalmology, University of Rome

Campus Bio-Medico, Italy [2] Dept. Ophthalmology, University of Padua, Italy

59 CYCLOSPORINE A PREVENTS ENHANCED NEURAL ACTIVITY OF CORNEAL COLD SENSORY NERVE TERMINALS IN CHRONIC DRY EYE. Illés Kovács[1,2], Susana Quirce[1], Carolina Luna[1], M. Carmen Acosta[1], Carlos Belmonte[1], Xavier Gasull[3], Juana Gallar1.1Instituto de Neurociencias, Universidad Miguel Hernandez-CSIC, San Juan de Alicante, Spain [2]Dept. of Ophthalmology, Semmelweis University, Budapest, Hungary [3]Dept. of Physiology-IDIBAPS, University of Barcelona, Barcelona, Spain

60 RESOLVINS FOR THE TREATMENT OF FRONT OF THE EYE DISEASES. Per Gjorstrup, Resolvyx Pharmaceuticals, Inc., Bedford, MA, USA

61 **Discussion:** TOPICAL JAK INHIBITOR, TASOCITINIB (CP-690,550), MODULATES OCULAR SURFACE INFLAMMATION IN DRY EYE. Jing-Feng Huang, Rolla Yafawi, Min Zhang, Michael McDowell, Kay D Rittenhouse, Frederick Sace, Melissa Liew, Scott R Cooper, Eve H Pickering. Pfizer Inc., San Diego, CA, USA

62 SELECTIVE ANDROGEN RECEPTOR MODULATORS (SARMs) AMELIORATE TEAR LIPID COMPOSITION IN A RABBIT MODEL OF MEIBOMIAN GLAND DYSFUNCTION (MGD). James T. Dalton[a], Jeetendra R. Eswaraka[a], Anand Giddabasappa[a], Jeffrey D. Kearbey[a], France Landry[b], Juhyun Kim[a], Monica M. Jablonski[c]. [a]Preclinical Research and Development, GTx Inc., [b]Merck-Frosst, Montreal, Canada and [c]University of Tennessee Health Science Center, Memphis, TN

63 NEW FORMULATION BASED ON LIPOSOMES LOADED WITH MEDROXYPROGESTERONE FOR DRY EYE TREATMENT. Rocío Herrero-Vanrell[1] ,Marta Vicario[1] ,José Manuel Benitez del Castillo[2], Beatriz de las Heras[3], Manuel Guzmán[4], Irene T. Molina-Martinez.[1, 1]Department of Pharmacy and Pharmaceutical Technology, School of Pharmacy, Complutense University, Madrid, Spain. [2] Unidad Superficie e Inflamacion Ocular (USIO), Hospital Clínico San Carlos, Madrid, Spain. [3]Department of Pharmacology, School of Pharmacy, Complutense University, Madrid, Spain. [4]Department of Pharmacy and Pharmaceutical Technology, School of Pharmacy, Alcalá University, Alcalá de Henares, Madrid, Spain

64 EFFICACY AND SAFETY OF DIQUAFOSOL TETRASODIUM OPHTHALMIC SOLUTION IN DRY EYE PATIENTS: A PHASE 2 , RANDOMIZED, DOUBLE-MASKED, PLACEBO-CONTROLLED CLINICAL TRIA.L Yukihiro Matsumoto[1)], Yuichi Ohashi[2)], Hitoshi Watanabe[3)], Kazuo Tsubota[1)] 1) Department of Ophthalmology, Keio University School of Medicine 2) Department of Ophthalmology, Ehime University School of Medicine 3) Department of Ophthalmology, Kansai Rosai Hospital

65 BROMFENAC OPHTHALMIC SOLUTION FOR TREATING THE SIGNS OF DRY EYE DISEASE. Simon P. Chandler,[1] Shari L. Rowen,[2] Neal A. Sher,[3] James A. Gow,[1] Timothy R. McNamara.[1] ISTA Pharmaceuticals®, Inc., Irvine, CA, USA[1]; Eye and

Cosmetic Surgery Center, Lutherville, MD, USA[2]; Eye Care Associates, PA, Minneapolis, MN, USA.[3]

66 ALLEVIATION OF DRY EYE DISEASE SYMPTOMS WITH BROMFENAC OPHTHALMIC SOLUTION James A. Gow,[1] Shari L. Rowen,[2] Neal A. Sher,[3] Simon P. Chandler,[1] Timothy R. McNamara.[1] ISTA Pharmaceuticals®, Inc., Irvine, CA, USA[1]; Eye and Cosmetic Surgery Center, Lutherville, MD, USA[2]; Eye Care Associates, PA, Minneapolis, MN, USA.[3]

67 EFFICACY OF BROMFENAC SODIUM OPHTHALMIC SOLUTION FOR THE TREATMENT OF DRY EYE DISEASE. Miki Fuseya[1], Hiroshi Fujishima[1], Masao Ogata[1], Murato Dogrue[2] Department of Ophthalmology, Saiseikai Central Hospital[1], J&J Ocular Surface and Visual Optics Department, Keio University School of Medicine, [2]

68 HUMIDIFYING THE COMPUTER WORKSPACE – CAN A USB-POWERED DESKTOP HUMIDIFIER MAKE A DIFFERENCE? Jennifer P. Craig[1], Evon Chan[2], Linda Ea[2], Clifford Kam[2], Yvonne Lu[2], Stuti Misra[1] New Zealand National Eye Centre, Departments of [1]Ophthalmology and [2]Optometry and Vision Science, University of Auckland, New Zealand

69 DRY EYES IN ACTIVE THYROID OPHTHALMOPATHY: THE ROLE OF OSMOPROTECTION. Boboridis G. K., Mikropoulos D., Ziakas G. N., Georgiadou I., Georgiadis S. N. 1st Ophthalmology Department, Aristotle University of Thessaloniki

70 PHARMARCODYNAMICS OF DA-6034 OPHTHALMIC SOLUTION IN NORMAL RABBIT. Ju Mi Kim, Moon Jung Goo, Kyung Koo Kang, Byoung Ok Ahn. DONG-A PHARM.CO.,LTD

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72 EFFECTIVENESS OF SINGLE ORAL PILOCARPINE ADMINISTRATION IN PATIENTS WITH SJÖGREN SYNDROME. Aoi Komuro[1, 2], Norihiko Yokoi[2], andShigeru Kinoshita. [1]Department of Ophthalmology, Nishijin Hospital, Kyoto, Japan, [2]Department of Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan

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74 CLINICAL INVESTIGATION OF COMPLICATIONS OF THE SUPEREAGLE ®PLUG Yukiko Sonomura,[1,2] Norihiko Yokoi,[2] Aoi Komuro,[2] Kayoko Inagaki,[1,2] Shigeru Kinoshita.[2] Yamashiro public Hospital,[1] Department of ophthalmology, Kyoto prefectural university of medecine,[2] Kyoto, Japan

75 GENE THERAPY TO MODULATE APOPTOSIS AND TO PROTECT ENDOTHELIAL CELLS AGAINST DEATH DURING STORAGE. Fuchsluger TA[1, 2], Jurkunas U[1, 3], Kazlauskas A[1], Dana R[1,3] [1]Schepens Eye Research Institute, Depart. of Ophthalmology, Harvard Medical School, Boston MA, USA; [2]Center of Ophthalmology / Institute of Anatomy, Essen University Hospital Essen, Germany; [3]Mass. Eye and Ear Infirmary, Depart. of Ophthalmology, Harvard Medical School, Boston MA, USA

76 LACRIMA®: THE ITALIAN REGISTER OF PATIENTS WITH TEAR DYSFUNCTION. M. Rolando,[1] S. Bonini,[2] P. Aragona,[3] G. M. Modorati[4] and S. Barabino[1] University of Genoa[1], Genoa, Italy; Biomedical Campus of Rome[2], Rome, Italy; University of Messina[3], Messina, Italy; San Raffaele Institute[4], Milan, Italy

77 EXTERNAL EYE DISEASES GROUP. Petricek Igor[1], Andras Berta[2], Janos Nemeth[3], Mohamed T Higazy[4], Marek Prost[5], Pavel Nemec[6]Head of Electrophysiology and Ultrasound Laboratory, Department of Ophthalmology, Zagreb University Hospital, Zagreb, Croatia[1] Professor, Chairman, Department of Ophthalmology, University of Debrecen, Debrecen, Hungary[2] Professor, Chairman, Department of Ophthalmology, Semmelweis University, Budapest, Hungary[3] Professor of Ophthalmology, Benha University, Heliopolius, Cairo, Egypt[4] Professor, Chairman, Department of Ophthalmology, Military Institute of Aviation Medicine, Warsaw, Poland[5] Department of Ophthalmology, Faculty of Medicine, Charles University, Prague, Czech Republic[6]