ISER 2016

XXII Biennial Meeting of the International Society for Eye Research

September 25-29, 2016 | Tokyo, Japan

FINAL PROGRAM BOOK

www.iserbiennialmeeting.org

ISER

SPECIAL RATES FOR ISER MEMBERS

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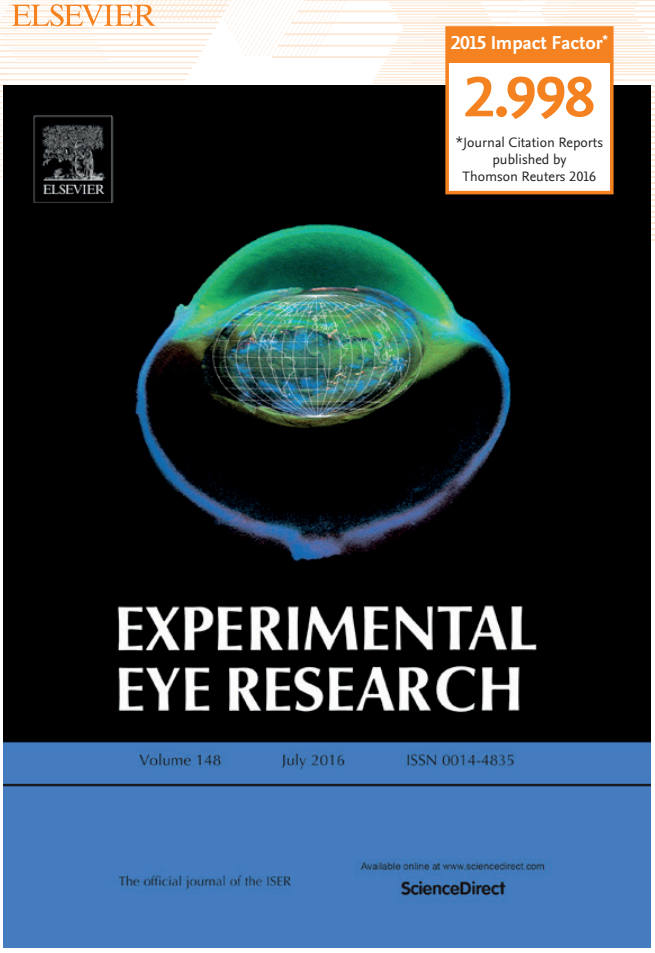

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Experimental Eye Research

The official journal of the International Society for Eye Research (ISER)

Editor-in-Chief: Joe Hollyfield

Cleveland Clinic Foundation, Cleveland, Ohio, USA

About the journal

With its 2015 Impact Factor of 2.998, *Experimental Eye Research* publishes high-impact research on **experimental biology** of the **eye** and **ocular tissues**. Articles involving **cell biology**, **developmental biology**, **genetics**, **molecular biology**, **physiology**, **biochemistry**, **biophysics**, **immunology** or **microbiology** are particularly welcome.

To further improve the impact of the research, the journal supports several content innovations:

- 3D Radiological Data
- AudioSlides
- Database Linking Tool
- Genome Viewer
- Interactive Plot Viewer
- Protein Viewer

***Experimental Eye Research* is currently accepting proposals for special issue topics.**

Did you know? If you are an ISER Member, you are entitled to a special subscription rate. In addition, ISER authors publishing in Experimental Eye Research are eligible to receive free color in the print edition of the journal.

To learn more please visit:
www.journals.elsevier.com/experimental-eye-research

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SAVE THE DATE

BASIC SCIENCE CATALYZING TREATMENTS FOR GLAUCOMA

OCTOBER 5- 7

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WELCOME MESSAGE

ISER President John S. Penn

John S. Penn, PhD

Vanderbilt University School
of Medicine
Nashville,
United States of America

Welcome

On behalf of the Executive Council of the International Society for Eye Research, I welcome you to the XXII ISER Biennial Meeting in the beautiful city of Tokyo! This meeting is made possible by the talents and hard work of several groups from around the world: our two local organizers in Tokyo, Professors Takeshi Iwata and Takahisa Furukawa, our meeting management partner in Berlin, K.I.T. Group, our Society administrative team in San Francisco, Association Management Services, and our meeting management liaison also in Berlin, Professor Olaf Strauß. These groups have worked effectively across several continents and time zones to produce an outstanding event that I trust will both entertain and inform attendees.

Working closely with Drs. Iwata and Furukawa are a group of two dozen program section organizers who will oversee approximately 110 session moderators who, in turn, have planned platform sessions in which scientists will present their latest findings covering all aspects of the eye and visual system. These scientists have come to Tokyo from over 30 countries representing six continents throughout the world. Alas, no one from Antarctica registered! To all of you who have participated in the development of the XXII ISER Biennial Meeting scientific program, ISER extends its sincerest appreciation.

Our meeting format promises to uphold the long-standing traditions of our Society. There will be ample opportunity for informal interaction between attendees and time for speakers to provide deeper context for their work – features that have become increasingly rare at larger meetings. This planning strategy is particularly beneficial to young scientists who are new to the field. For this biennial meeting, ISER and its sponsors have made an enormous commitment to young investigators, providing more than 60 travel fellowships to students and scientists who have recently completed training. ISER recognizes that these young people are the future of vision research and the future of our Society.

I especially want to recognize the generous support of our corporate and foundation sponsors: Knights Templar Eye Foundation, Inc., Santen Pharmaceutical Co. Ltd. Japan, Bayer Yakuhin, Ltd., Menicon Co., Ltd., BrightFocus® Foundation, Ora, Inc., Senju Pharmaceutical Co., Ltd., Novartis Pharma K.K., Alcon® Japan, WCCT Global, The National Foundation for Eye Research, Sucampo Pharmaceuticals, Inc.
Without the generosity of these companies and foundations ISER Biennial Meetings could not exist. Please take a moment to thank their representatives when you encounter them at the meeting. I would also like to recognize the dedication of the ISER Executive Council, Drs. Tailoi Chan-Ling, Chris McGahan and Olaf Strauß, who through their tireless efforts have provided invaluable support from behind the scenes.

In closing, I wish you all an enjoyable and productive meeting. Please take the time to experience the modern beauty of Tokyo. Enjoy the culture, enjoy the science, and enjoy the company of old and new friends. And, of course, we look forward to seeing you at XXIII ISER Biennial Meeting in Belfast, Northern Ireland, in 2018!

John S. Penn, PhD
ISER President

Local Organizers Takeshi Iwata and Takahisa Furukawa

Welcome to the ISER XXII Biennial Meeting!

Dear colleagues and friends,

It is our great pleasure to welcome you to the XXII Biennial Meeting of the International Society for Eye Research (ISER). This is the fourth ISER meeting in Japan after the Osaka meeting in 1978, the Nagoya meeting in 1986, and the Yokohama meeting in 1996. It is our great honor to host this 2016 meeting in Tokyo.

As the local organizer and the program chair, we have prepared the Tokyo meeting with great care for you to enjoy the scientific program and the social activities. Thanks to the Program Committee Members, we have 108 oral sessions and 148 posters. All oral sessions are scheduled for 24 min presentations and additional 12 min presentations for young investigators. Four award ceremonies and lectures are scheduled each day in the morning. Oral sessions will be held on the fourth and fifth floor, while the poster sessions will be held on the 43rd floor with a magnificent view of Shinjuku skyline and sunset.

Keio Plaza Hotel, the meeting venue is located at Shinjuku area in west Tokyo, where you will find easy access from two international airports in Tokyo, Haneda and Narita. The east side of the venue will be surrounded by thousands of restaurants, department stores and a city park. You can easily move around Tokyo by metropolitan railways, subways, bus and taxi. Haneda airport is connected to all airports in Japan and the Shinkansen (Japanese bullet train) will also take you to Kyoto, the old capital, in 2 hours.

Excursion tours will be programmed for you to explore the capital of Japan and to enjoy Japanese traditional culture in Asakusa and Kabukiza Theatre (Kabuki). Visit Tsukiji Fish Market and taste the best sushi & sashimi in the world. You can also enjoy pop culture in Shinjuku, Harajuku and Shibuya located only a few minutes from the venue by taxi. In addition, tours to Kamakura, Nikko, Hakone and Mt. Fuji will be planned.

We hope you enjoy the meeting's scientific program and the rich culture and heritage of Japan.

Best wishes,

Takeshi Iwata

National Institute of Sensory Organs, Tokyo Medical Center, National Hospital Organization, Japan

Takahisa Furukawa

Institute for Protein Research, Osaka University, Japan

Takeshi Iwata, Ph.D.
Local Organizer

Takahisa Furukawa, M.D., Ph.D.
Local Organizer

ABOUT ISER

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Co-Chair, Local Organizing Committee

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Co-Chair, Local Organizing Committee

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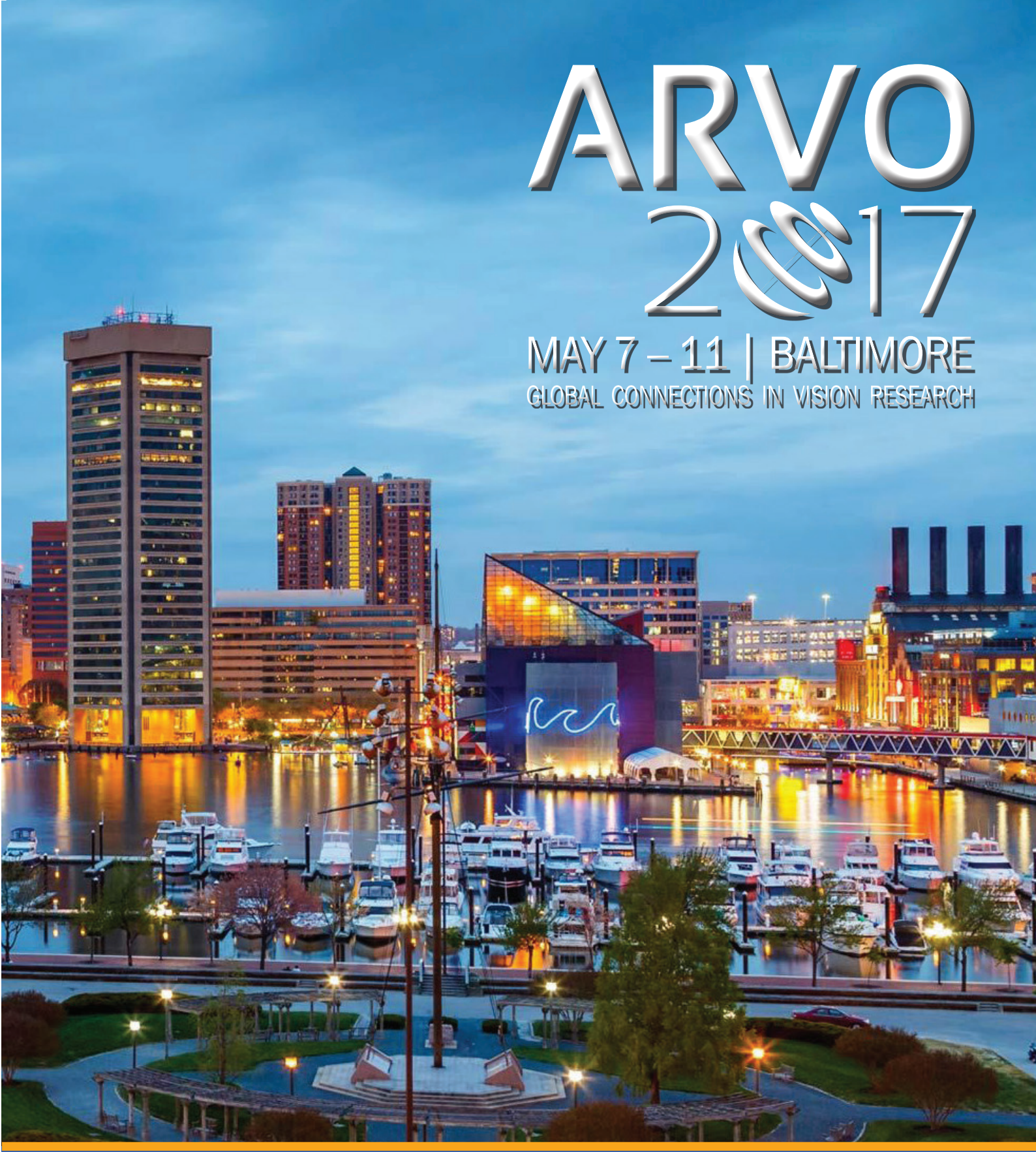

Important Dates

- **Abstract submission**
  October 14 – December 2, 2016
- **Early meeting registration**
  Opens September 19, 2016

Travel grants are available. Apply when submitting your abstract.

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ISER History

DECEMBER 1968

Fifteen scientists from eight countries met in Oxford, England, and formed a Committee to explore the possibility of establishing an international organization to support eye and vision research. Among the objectives were coordination of various channels of research communication; establishment of an international information center and clearinghouse for financial, organizational, and operational aspects of eye research; stimulation and promotion of international research cooperation; assistance and cooperation with local, national, and regional eye research organizations when needed. The first officers of the Committee were A. Pirie, Chairperson; E. A. Balazs, General Secretary; and H. Davson, Treasurer.

MARCH 1969

At a meeting held in New York, the International Committee for Eye Research was established with a membership of 50. The newly elected officers of this enlarged Committee were A. Pirie, Chairperson; N. Nordmann and G. Smelser, Vice-Chairpersons; E. A. Balazs, General Secretary; and H. Davson, Treasurer.

AUGUST 1972

N. Nordmann became Chairperson of the Committee.

SEPTEMBER 1972

International Committee for Eye Research met in Charleston, South Carolina, USA.

OCTOBER 1973

The Japanese Chapter of the International Committee for Eye Research was organized by T. Mizukawa, S. Mishima, and A. Nakajima.

MAY 1974

The International Society for Eye Research was incorporated in the State of Delaware (USA).

JUNE 1974

At the first International Congress of Eye Research (Capri, Italy), the International Committee for Eye Research was dissolved and its former members became the Board of Directors of the international Society. Subcommittees for drafting the Bylaws and designing rules for membership were established. Pro tem officers of the Society were elected: E. A. Balazs, President-Secretary; S. Dikstein, Vice President; W. J. Manski, Treasurer. National Secretaries were appointed in 22 countries as liaisons between the Society, scientists, and national organizers in the field of eye and vision research.

SEPTEMBER 1976

At the second International Congress of Eye Research (Jerusalem, Israel) the Bylaws of the International Society were discussed and finalized.

1978

The Bylaws were adopted at the meeting of the Board of Directors and new officers were elected. The Society was opened for membership applications. An annual fee for membership was collected for the first time in 1980. New officers: E. A. Balazs, President; J. Zadunaisky, Secretary; and K. Eakins, Treasurer.

1984

Experimental Eye Research adopted at the Congress in Alicante, Spain, as the Journal of the Society. New officers: J. Zadunaisky, President; J. Hollyfield, Secretary; and F. Bettelheim, Treasurer.

1988

Office of the ISER Secretariat established; J. L. Denlinger, Executive Director. New officers: J. Hollyfield, President; C. Belmonte, Secretary; and P. O'Brien, Treasurer.

1990

New Membership categories established: Family and Student. New officers: C. Belmonte, President-Elect; M. LaVail, Vice President (North America); K. Masuda, Vice President (Japan/Far East).

1992

New officers: C. Paterson, Secretary; R. Anderson, Treasurer; Luc Missotten, Vice President (Europe).

1994

New officers: C. Paterson, President-Elect; H. Mishima, Vice President (Japan/Far East); A. Milam, Vice President (North America).

1996

New officers: N. Orzalesi, Secretary; M. Burns, Treasurer; J. Tiffany, Vice President (Europe); J. Blanks, Councilor (North America); M. Riley, Councilor (North America); M. Tamai, Councilor (Japan/Far East); A. Wegener, Councilor (Europe).

1997

New Treasurer: T. Freddo.

1998

New officers: P. Kaufman, President-Elect; Y. Honda, Vice President (Japan/Far East); N. Delamere, Vice President (North America); J. Forrester, Councilor (Europe); I. Gipson, Councilor (North America).

2000

New officers: A. Bron, Secretary; A. Alm, Vice President (Europe); P. Cammarata, Councilor (North America); S. Kinoshita, Councilor (Japan/Far East).

2002

New officers: R. Anderson, President-Elect; I. Gipson, Vice President (North America); G. Duncan, Councilor (Europe); M. R. Hernandez, Councilor (North America); M. C. McGahan, Councilor (North America; M. Tamai, Vice President (Japan/Far East).

2004

New officers: N. Osborne, Vice President (Europe); J. Penn, Secretary; K. Loeffler, Councilor (Europe); S. Fliesler, Councilor (North America); N. Yoshimura, Councilor (Japan/Far East).

2006

New officers: T. Freddo, President-Elect; D. Dartt, Vice President (North America); J. McAvoy, Vice President (Pacific Rim); E. Tamm, Councilor (Europe); J. Blanks, Councilor (North America); O. Candia, Councilor (North America).

2008

New officers: M. C. McGahan, Secretary; S. Fliesler, Treasurer; O. Strauss, Vice President (Europe); N. Osborne, Councilor (Europe); T. Iwata, Councilor (Pacific Rim); J. Penn, Councilor (North America).

2010

New officers: S. Fliesler, President-Elect; A. Taylor, Vice President (North America); P. Donaldson, Vice President (Pacific Rim); J. Gallar, Councilor (Europe); C. Mitchell, Councilor (North America); S. Wilson, Councilor (North America); J. Penn, Meeting Liaison.

2012

New officers: E. Tamm, Vice President (Europe); Tailoi Chan-Ling, Secretary; M. C. McGahan, Treasurer; D. Hyde, Councilor, (North America); O. Strauss, Councilor (Europe).

2014

New officers: G. Lutty, Vice President (North America); T. Iwata, Vice President
(Asia Pacific); M. Karl, Young Investigator Representative (North America).

2016

New officers: John S. Penn, President-Elect (North America); Olaf Strauss, Meeting Liaison (Europe).

ISER Previous Meetings

The International Committee for Eye Research and the International Society for Eye Research have sponsored the following meetings:

1971

SYMPOSIUM ON LENS
Utrecht, The Netherlands

1972

SYMPOSIA ON LENS AND AGING AND TRANSPORT PROCESSES IN THE EYE
Charleston, South Carolina, USA

1974

FIRST INTERNATIONAL CONGRESS OF EYE RESEARCH
Capri, Italy
Organizers: M. deVincentis, G. Auricchio, M. Testa

1975

SYMPOSIUM ON THE PIGMENT EPITHELIUM (Proceedings of the National Eye Institute)
Bethesda, Maryland, USA

1976

SECOND INTERNATIONAL CONGRESS OF EYE RESEARCH
Jerusalem, Israel
Organizer: S. Dikstein

1978

THIRD INTERNATIONAL CONGRESS OF EYE RESEARCH
Osaka, Japan
Organizer: T. Mizukawa

1980

FOURTH INTERNATIONAL CONGRESS OF EYE RESEARCH
New York, New York, USA
Organizer: E. Balazs

1982

FIFTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Veldhoven, The Netherlands
Organizer: S. Bonting

1984

SIXTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Alicante, Spain
Organizer: C. Belmonte

1986

SEVENTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Nagoya, Japan
Organizer: S. Iwata

1988

EIGHTH INTERNATIONAL CONGRESS OF EYE RESEARCH
San Francisco, California, USA
Organizer: D. Maurice

1990

NINTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Helsinki, Finland
Organizer: A. Palkama

1992

TENTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Stresa, Italy
Organizer: A. Secchi

1994

ELEVENTH INTERNATIONAL CONGRESS OF EYE RESEARCH
New Delhi, India
Organizer: P. K. Khosla

1996

TWELFTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Yokohama, Japan
Organizer: K. Masuda

1998

THIRTEENTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Paris, France
Organizer: Y. Pouliquen

2000

FOURTEENTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Santa Fe, New Mexico, USA
Organizers: N. Delamere, M. Riley

2002

FIFTEENTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Geneva, Switzerland
Organizer: S. Merin

2004

SIXTEENTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Sydney, Australia
Organizer: J. McAvoy

2006

SEVENTEENTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Buenos Aires, Argentina
Organizer: O. Candia

2008

EIGHTEENTH INTERNATIONAL CONGRESS OF EYE RESEARCH
Beijing, China
Organizers: X. Li, J. Zhao, J. Ge, M. Lou

2010

NINETEENTH BIENNIAL MEETING OF THE INTERNATIONAL SOCIETY FOR EYE RESEARCH
Montreal, Canada
Organizers: J. Penn, M. Steinbach

2012

TWENTIETH BIENNIAL MEETING OF THE INTERNATIONAL SOCIETY FOR EYE RESEARCH
Berlin, Germany
Organizers: O. Strauss, E. Tamm

2013

SYMPOSIUM ON MOLECULAR MECHANISMS IN GLAUCOMA
Sarasota, Florida, USA
Organizer: E. Tamm

2014

TWENTY-FIRST BIENNIAL MEETING OF THE INTERNATIONAL SOCIETY FOR EYE RESEARCH
San Francisco, California, USA
Organizers: S. Bhat, D. Williams

2016

TWENTY-SECOND BIENNIAL MEETING OF THE INTERNATIONAL SOCIETY FOR EYE RESEARCH
Tokyo, Japan
Organizers: T. Iwata, T. Furukawa

ABOUT ISER

Membership Information

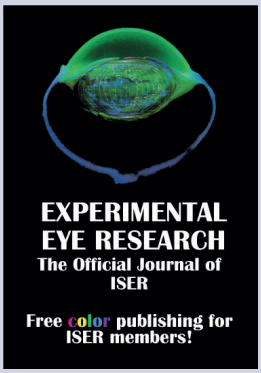
Member Benefits

Members of ISER benefit from the following:

- Affordable dues
- Reduced subscription rate to monthly peer-reviewed Journal, Experimental Eye Research (EER – see box)
- Quarterly online newsletter, ISER Eyes on the World
- Access to ISER's discussion forum, Eye2Eye
- Publishing and platform presentation opportunities
- Organizational updates at www.iser.org
- Research award eligibility - four unique awards
- International biennial meeting:
- Networking opportunities
- Exchange information with international colleagues
- Share research in symposia
- Reduced registration rate for members
- Topic-specific meetings
- Travel Fellowships and Mentoring Program for Young Investigators
- Leadership growth potential

ISER Journal

The goal of Experimental Eye Research is to publish original research papers on all aspects of the anatomy, physiology, biochemistry, biophysics, molecular biology, pharmacology, developmental biology, microbiology, and immunology of the eye. The journal is subdivided into four sections; Aqueous Humor and Blood Flow, Cornea and Ocular Surface, Lens and Retina and Choroid, each with their own section editors. Short Letters to the Editor on current research, or remarks on recently published papers, are reviewed and published promptly.



Member Categories

FULL

Investigators who are actively engaged in eye or vision research or other fields related to eye or visual system tissues and are 7 years or more past their terminal degree.

YOUNG INVESTIGATOR

Investigator shall be predoctoral or postdoctoral (PhD/MD/OD/DVM/DO) equivalent students, clinical residents, clinical fellows, researchers or faculty engaged in vision/eye research for less than 7 years since their terminal degree.

FAMILY

Full Member and his/her spouse. Both will be considered "Full Members" and shall be investigators actively engaged in eye or vision research or other fields related to eye or visual system tissues.

SUSTAINING

Persons, organizations, societies, corporations or agencies who provide financial support of the society.

EMERITUS

Full Members who have 10 years cumulative ISER membership, who have reached the age of 65, whose academic appt is no more than 50%, and who have requested a change to Emeritus Membership.

HONORARY

Nominated for exceptional scientific contributions to eye/vision research.

Contact ISER

If you would like to become a member or learn more about ISER, our awards, or benefits, contact the ISER office:

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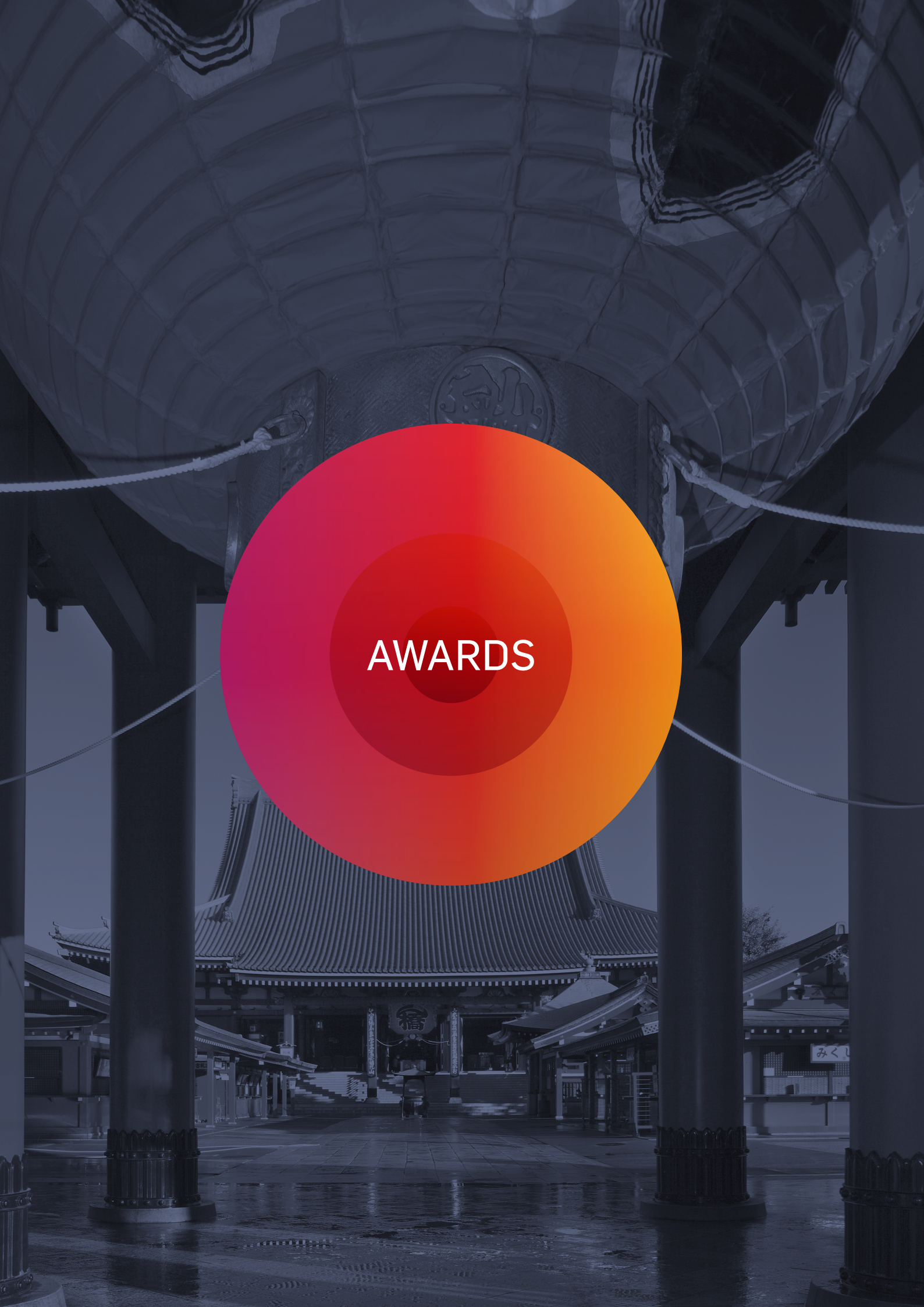

AWARDS

Award Lectures

The Endre A. Balazs Prize

Reza Dana, MD, MPH, MSc

Reza Dana, MD, MPH, MSc

The Council of ISER awards an International Prize to honor a distinguished scientist whose outstanding contributions provide significant progress in the field of experimental eye research. This prize was named the Endre A. Balazs Prize to honor Endre A. Balazs for his distinguished work in eye research and his contributions to the organization of the International Society for Eye Research. The Endre A. Balazs Prize is awarded at every Biennial Meeting of the Society for Eye Research.

The 2016 recipient of this Prize is Reza Dana. Dr. Reza Dana holds the Claes Dohlman Chair in Ophthalmology at Harvard Medical School. He is Director of the Cornea Service at the Massachusetts Eye and Ear, Senior Scientist at the Schepens Eye Research Institute/Mass Eye and Ear, and a member of the Harvard Medical School Graduate Program in Immunology ('Committee on Immunology'). Dr. Dana studies the molecular and cellular mechanisms of ocular inflammation with applications in autoimmunity, transplantation, dry eye disease, and angiogenesis. A 'Gold Fellow' of ARVO, he has authored nearly 250 peer-reviewed articles and over 120 reviews and book chapters, and has delivered more than 200 invited and named lectures worldwide. He has been the recipient of multiple awards, including the RPB Special Scholar Award, RPB Physician-Scientist Award, and the Senior Scientific Investigator Award from Research to Prevent Blindness, the Cogan Award from ARVO, the LSU Chancellor's Award in Neuroscience and Ophthalmology, and the Alcon Research Institute Award. Dr. Dana is Associate Editor of IOVS, and is on the editorial board of the journals Cornea, Scientific Reports (Nature Group), The Ocular Surface, Ophthalmologica, and UpToDate Rheumatology. In addition to his basic laboratory investigations, he leads a translational research program that has received 9 IND permits from the United States FDA in just the last few years. Dr. Dana has trained over 100 fellows and graduate students from more than 30 countries in his laboratory to date, and was the 2014 recipient of the A. Clifford Barger Excellence in Mentoring Award at Harvard Medical School.

The Endre A. Balazs Prize will be awarded during the Opening Ceremony on Monday, September 26, 10.30-12.00, room Concord AB.

Previous recipients

- Hans Bloemendal (1984)
- James Rae (1986)
- Laszlo Bito (1988)
- Anders Bill (1990)
- Jose A. Zadunaisky (1992)
- Joe G. Hollyfield (1994)
- Elke Lütjen-Drecoll (1996)
- Carlos Belmonte (1998)
- Nicolas G. Bazan (2000)
- Thomas Mittag (2002)
- Neville Osborne (2004)
- King-Wai Yau (2006)
- Ilene K. Gipson (2008)
- Joseph C. Besharse (2010)
- Gerard A. Lutty (2012)
- Patricia D'Amore (2014)

The Ernst H. Bárány Prize

Lloyd P. Aiello MD, PhD

The Council of ISER awards an International Prize in honor of Professor Ernst H. Bárány, for his distinguished work in the field of ocular pharmacology. This award is presented to a distinguished scientist who has made outstanding contributions in research that increases our understanding of ocular pharmacology directly related to or applicable to glaucoma, diabetic retinopathy, macular degeneration, or related retinal diseases.

Lloyd P. Aiello MD, PhD

The 2016 recipient of this Prize is Lloyd Paul Aiello, MD, PhD, FARVO. Dr. Aiello is Professor of Ophthalmology at Harvard Medical School, Vice Chair for Centers of Excellence and Associate Chief of Longwood Ophthalmology at Harvard Department of Ophthalmology, Director of the Beetham Eye Institute and Head of Eye Research at the Joslin Diabetes Center, and Founding Chair of the National Eye Institute Diabetic Retinopathy Clinical Research Network (DRCR). He received his doctoral degree in Biochemistry and a medical degree from Boston University School of Medicine. He completed residency in ophthalmology at the Wilmer Ophthalmological Institute at Johns Hopkins University and Hospital before coming to the Joslin Diabetes Center, where he completed both a clinical vitreoretinal, and a research fellowship. He joined the Joslin staff in 1994.

Dr. Aiello is an internationally recognized expert in the area of diabetic retinopathy basic and clinical research, and has made extensive care-changing contributions especially in relation to VEGF and related factors. His research addresses biochemical and molecular mechanisms underlying early diabetic retinopathy, the development of novel interventions, and the subsequent therapeutic evaluation through design and implementation of rigorous phase 1-3 clinical trials. He has been involved in setting standards for diabetic eye care nationally and internationally for many years.

Dr. Aiello spearheaded seminal basic science studies elucidating the role of VEGF and other factors in mediating diabetic eye disease. The results allowed the identification of various pharmacologic interventions to prevent the main causes of diabetic visual loss. He demonstrated beneficial effects in animal models and was a major contributor designing, implementing and analyzing key clinical trials eventually leading to FDA approval of antiVEGF therapies for diabetic macular edema (DME). Based upon his original findings, and with his involvement, DRCR showed these therapies are an alternate treatment for proliferative diabetic retinopathy. Dr. Aiello and colleagues have also found nonVEGF pathways mediating DME and a new small molecule inhibitor is entering phase 2 clinical trials with potential to treat patients who do not respond well to AntiVEGF.

Dr. Aiello has authored over 300 publications including contributions to the New England Journal of Medicine, Nature Medicine, Lancet and many others. He is recipient of 50 national and international awards for his research including the Champalimaud Vision Award, the world's largest prize in eye research and the highest distinction in ophthalmology and visual science.

The Ernst H. Bárány Prize will be awarded during the Plenary Lecture on Tuesday, September 27, 10.30-11.45, room Concord AB.

Previous recipients

- Johan Stjernschantz (2002)
- Elke Lütjen-Drecoll (2004)
- Paul Kaufman (2006)
- Anthony P. Adamis (2008)
- Martin B. Wax (2010)
- Peter F. Kador (2012)
- Thomas Yorio (2014)

Award Lectures

The Retina Research Foundation's Paul Kayser International Award in Retina Research

King-Wai Yau, PhD

King-Wai Yau, PhD

The Council of ISER accepted a proposal from the Retina Research Foundation (RRF), Houston, Texas, to present the Foundation's Paul Kayser International Award in Retina Research at ISER's biennial congresses beginning in 1986. Nominees for and recipients of the award are selected by Foundation officials interacting with a committee appointed by the ISER Council. Founded in 1969, Retina Research Foundation is a publicly supported, tax-exempt charitable organization that conducts an ongoing program of basic vision science research devoted to the retina and retinal diseases.

The Paul Kayser International Award in Retina Research was created by the Directors of Retina Research Foundation and endowed by the Trustees of The Kayser Foundation to honor and perpetuate the memory of longtime friend and dedicated benefactor of RRF Paul Kayser. Through this award both organizations are demonstrating the conviction they shared with Mr. Kayser that blindness caused by retinal disease is a global concern and must be addressed accordingly. It is thus the purpose of this award to foster greater awareness of the need for intensive study of the retina, its role in the visual process, and the retinal diseases that threaten and/or destroy eyesight by recognizing outstanding achievement and sustaining meritorious scientific investigations worldwide.

The 2016 recipient of this award is King-Wai Yau, PhD. King-Wai Yau was born in China and grew up in Hong Kong. After high school and a year of medical school there, he came to the US and received an A.B. in physics from Princeton (1971, University Scholar, Phi Beta Kappa, Sigma Xi) and a Ph.D. in neurobiology from Harvard (1975) under John Nicholls. He did postdoctoral work with Denis Baylor at Stanford, developing the suction-pipette-recording method that revolutionized the study of retinal rods and cones. He spent 1979-81 at Cambridge, England with Sir Alan Hodgkin, during which time he became intrigued by rod/cone phototransductions. In 1981, he moved to Department of Physiology and Biophysics at University of Texas Medical Branch at Galveston, where he contributed greatly to solving this problem. He rose to full professor in 1985, and, a year later, relocated to Johns Hopkins as Professor of Neuroscience and HHMI Investigator. At Hopkins, Yau investigated rod/cone phototransductions in ever greater detail. He also expanded over time into molecular biology, olfactory transduction, ion-channel molecular physiology, mouse genetics, intrinsically-photosensitive retinal ganglion cells, as well as retinal diseases and some translational work.

Yau received England's Rank Prize in Optoelectronics (with Denis Baylor and Trevor Lamb) in 1980, the Friedenwald Award from the Association of Research in Vision and Ophthalmology (1993), the Alcon Award in Eye Research twice (1994, 2005), the Magnes Prize from Hebrew University of Jerusalem (1996), the Balazs Prize from International Society for Eye Research (2006), Portugal's António Champalimaud Vision Award (with Jeremy Nathans) in 2008, CNIB Chanchlani Global Vision Award, Canada (2012), and the tri-yearly National Academy of Sciences Alexander Hollaender Award in Biophysics (2013). Yau is a member of the National Academy of Sciences and a Fellow of the American Academy of Arts and Sciences.

The Retina Research Foundation's Paul Kayser International Award for Retina Research will be awarded during the Plenary Lecture on Wednesday, September 28, 10.30-11.45, room Concord AB.

Previous recipients

- Shom S. Bhattacharya and Alan F. Wright (1986)
- Dennis Baylor (1988)
- Berndt Ehinger and Neville Osborne (1990)
- Alan M. Laties (1992)
- Alan C. Bird (1994)
- Akimichi Kaneko (1996)
- Anita E. Hendrickson (1998)
- Debora B. Farber (2000)
- Dennis M. Dacey (2002)
- The research consortium composed of Gregory Ackland, Gustavo Aguirre, Jean Bennett, William Hauswirth, Samuel Jacobson, Albert Maguire (2004)
- Dean Bok (2006)
- John E. Dowling (2008)
- Frank S. Werblin (2010)
- Robert E. Anderson (2012)
- Robert E. Marc (2014)

The Ludwig von Sallmann Prize

Rosalie K. Crouch, PhD

Ludwig von Sallmann was a distinguished international ophthalmologist and ophthalmic investigator who served on the staffs of Vienna, Peking, and Columbia Universities and the Ophthalmology Branch of the former National Institute of Neurological Diseases and Blindness at the National Institutes of Health. His wife, Henrietta von Sallmann, established a trust fund to award, in his memory, a cash prize every two years to an individual who has distinguished himself or herself by making a significant contribution to vision research and ophthalmology.

Rosalie K. Crouch, PhD

The 2016 recipient of this Prize is Rosalie Kelsey Crouch, PhD. Dr. Rosalie Kelsey Crouch trained as a synthetic organic chemist and has studied the role of retinoids in ocular diseases throughout her career. She holds degrees from Randolph-Macon Woman's College, Lehigh University and Albert Einstein School of Medicine. Her postdoctoral studies were with Koji Nakanishi at Columbia University, while at the same time balancing the arrival of her two children. Her academic career has been at the Medical University of South Carolina. As an administrator, she rose to the rank of Provost/Vice President for Academic Affairs. As a researcher, she is known for her research on retinoid biochemistry and has made important (and unexpected) findings on the actions of retinoids in the visual process and disorders, often using retinal analogues to probe structure and function. Her current interest is on probing the potential for the role of bis-retinoids in retinal degenerations. She has served on numerous editorial boards, been continuously supported for her research, and published over 250 papers. The role of women in science has been a particular interest, and she has written and spoken widely in this area. She has received numerous awards including the American Society for Photobiology Award for Research, the South Carolina Governor's Award for Science, and Distinguished University Professor. She has mentored many students, several of whom have made significant contributions to the field of vision. She synthesized 11-cis retinal for vision researcher community, obtainable through the NEI. She is also the proud grandmother of three, birdwatcher, change-bell ringer and duplicate bridge player.

The Ludwig von Sallmann Prize will be awarded during the Plenary Lecture on Thursday, September 29, 10.30-11.45, room Concord AB.

Previous recipients

- Tsuneo Tomita (1984)
- Gerald Westheimer (1986)
- Daniel Albert (1988)
- Richard F. Brubaker (1990)
- John E. Dowling (1992)
- Sohan Singh Hayreh (1994)
- David M. Maurice (1996)
- Denis A. Baylor (1998)
- Helga E. Kolb (2000)
- Steven K. Fisher (2002)
- Jonathan Stone (2004)
- Eliot Berson (2006)
- Samuel Miao-Sin Wu (2008)
- Robert S. Molday (2010)
- Eberhardt Zrenner (2012)
- Christine A. Curcio (2014)

AWARDS

Travel Fellowships

As part of its commitment to ensuring that young investigators from around the world have the opportunity to participate in its meetings, ISER underwrites a Young Investigator Travel Fellowship Program. Based upon established criteria, the ISER Travel Fellowship Committee carefully reviewed and selected 54 travel fellowship awardees from among the many deserving applicants. ISER thanks the members of the Committee for their dedicated service and congratulates all those who have received travel awards to the XXII ISER Biennial Meeting in Tokyo.

Recipients of ISER Travel Fellowships:

Samuel Adamson, Australia
Priyanka Agarwal, New Zealand
Shannon Das, Australia
Sarah Doyle, Ireland
Carol Greene, New Zealand
Elena Koudouna, United Kingdom
Emily Mathieu, Canada
Stephen Swioklo, United Kingdom
Adele Tufford, Canada
Jie Zhang, New Zealand

THE KNIGHTS TEMPLAR EYE FOUNDATION TRAVEL FELLOWSHIPS

Recipients:

Cameron Baker, USA
Ethan Buhr, USA
Ana Chucair-Elliott, USA
Brian Clark, USA
Sergio Crespo-Garcia, Germany
Sarah Doyle, USA
Jianhai Du, USA
Felice Dunn, USA
Ning Fan, China
Morgan Fedorchak, USA
Ollya Fromal, USA
Joseph Giacalone, USA
Nestor Gomez, USA
Yan Gong, USA
Akina Hoshino, USA
Yang Hu, USA
Cristhian Ildefonso, USA
Simon Kaja, USA
Ramesh Kasetti, USA
Vladimir Khristov, USA
Pamela Ko, USA
Gregory Konar, USA
Chi-Hsiu Liu, USA
Hongwei Ma, USA
Nawajes Mandal, USA
Sonali Nashine, USA
Federica Naso, Italy
Sarah Redmon, USA
Christophe Roubeix, Germany
Philip Ruzycki, USA
Onkar Sawant, USA
Hardeep Singh, USA
Julia Teister, Germany
Imam Uddin, USA
Stefanie Volland, USA
Irene Vorontsova, USA
Xiangjia Zhu, China
Wei Zhu, USA
Rahel Zulliger, USA

BRIGHTFOCUS FOUNDATION TRAVEL FELLOWSHIPS

The BrightFocus Foundation provided funds to enable young glaucoma and age-related macular degeneration researchers to participate in the XXII ISER Biennial Meeting.

Recipients:

Thomas Burgoyne, United Kingdom
Nilisha Fernando, Australia
Emeline Nandrot, France
Ilva Rupenthal, New Zealand

BETTELHEIM TRAVEL FELLOWSHIP

The National Foundation for Eye Research, which established the Bettelheim Travel Fellowship, provided funds to enable young cataract researchers to participate in the XXI ISER Biennial Meeting.

Recipient:

Archana Siddam, USA


SCHEDULE
AT A GLANCE

SCHEDULE AT A GLANCE

Monday, September 26

Room	Concord AB	Ohgi	Nishiki	Hana A	Hana B
08:00		**COS1**	**GLA1**	**OPT1**	**RCB1**
08:30		Corneal infection	Cell plasticity, fibrogenic mechanisms and glaucoma	Translational studies in glaucoma - How do we make basic science studies in glaucoma more clinically relevant: Development of a consensus	New insights on the RPE/Bruchs membrane/ choriocapillaris in AMD
09:00					
09:30					
10:00					
10:30	**Opening Ceremony & The Endre A. Balazs Prize**				
11:00					
11:30					
12:00			**Sponsored Session**		
12:30			Risk factors and mechanisms of macular disorders		
13:00		**GLA2**	**COS2**	**JNT3 (IMM+RCB)**	**OGM2**
13:30		Major identified players in glaucoma genes and signaling pathways	Emerging paradigms in stromal regenerative biology	Microglia and macrophages as therapy targets for retinal diseases	Molecular genetics of eye disease
14:00					
14:30					
15:00					
15:30		**IMA2**	**JNT8 (OPT+GLA)**	**COS3**	**OPT11**
16:00		New advances in ocular imaging - Part I	Sustained glaucoma therapy and ocular drug delivery	Corneal endothelium: Pathophysiology and treatment	Dry eye diagnosis
16:30					
17:00					
17:30					
18:00					
18:30					
19:00					

Monday, September 26

Hana C	Hana D	Natsume	Katsura	Mizuki	Poster Area 43F	Room
RND1	OGM1	RPE8	JNT10(IMM+OPT)	LEN1		08:00
Transcription control of retinal cell identity	Genetics of multifactorial eye diseases	Exploring the intersection between inflammation and lipid metabolism in age-related macular degeneration (AMD)	New molecular mechanisms and therapeutic approaches for uveitis	Lens development		08:30
						09:00
						09:30
						10:00
						10:30
						11:00
						11:30
						12:00
						12:30
OPT2	RND10	LEN2	RPE2	IND1		13:00
Translational ophthalmology: Novel targets and their development into the clinic	Noncoding RNA in retinal development and disease	Oxidative stress	Lipid dynamics at the photoreceptor-RPE nexus	Expanding the functions of ocular surface innevation: Photophobia and photoallodynia		13:30
						14:00
						14:30
						15:00
RPE4	RND2	OGM3	RCB2	LEN3		15:30
VEGF and beyond	Epigenetics in development and disease	Asian eye genetics	Inflammation in AMD	Biomarkers in cataractogenesis		16:00
						16:30
						17:00
					Poster Session	17:30
						18:00
						18:30
						19:00

SCHEDULE AT A GLANCE

Tuesday, September 27

Room	Concord AB	Ohgi	Nishiki	Hana A	Hana B	Hana C
08:00		**COS4**	**IMA3**	**JNT1 (GLA+OMG)**	**RCB3**	**RND4**
08:30		Corneal refractive surgeries	OCT angiography and Doppler OCT	Genetics of glaucoma	Retinopathy of prematurity	Establishment of retinal circuitry and synapses
09:00						
09:30						
10:00						
10:30	Plenary Lecture & The Ernst H. Bárány Prize					
11:00						
11:30						
12:00						
12:30						
13:00		**COS5**	**GLA4**	**LEN5**	**IND2**	**JNT11(OPT+IMM)**
13:30		Cornea transplantation and keratoprothesis	ONH/NFL imaging in glaucoma	Channels and transporters	Electrophysiology of vision	An intersection of receptor signaling pathways with neuroinflammation (inflammasome)
14:00						
14:30						
15:00						
15:30		**GLA5**	**IMA4**	**OPT8**	**RCB4**	**OGM10**
16:00		Translaminar pressure gradient and glaucoma progression	Functional & contrast enhanced imaging	Prostaglandins for ocular hypertension treatment: A new era is dawning	Signal transduction in the retina	Genetics of retinal degenerations
16:30						
17:00						
17:30						
18:00						
18:30						
19:00						
19:30						
20:00						
20:30						
21:00						

Tuesday, September 27

Hana D	Natsume	Katsura	Mizuki	Eminence Hall	Poster Area 43F	Room
OPT7	LEN4	OGM9	JNT12 (IMM+RPE)			08:00
Novel molecular mechanisms of diabetic retinopathy	Lens regeneration and evolution	Genomics of ophthalmic diseases	RPE regulation of innate immune activity and functionality in macrophages			08:30
						09:00
						09:30
						10:00
						10:30
						11:00
						11:30
						12:00
						12:30
RND3	OGM5	JNT6 (IMM+OPT)	RPE6			13:00
Cell-cell signaling and retinal development	Congenital stationary night blindness from A-Z	Molecular mechanisms of fibrosis in eye tissues	The Next Best thing: Making sense of the bestrophinopathies			13:30
						14:00
						14:30
						15:00
RND6	COS6	JNT2 (IMM+RPE)	LEN6			15:30
RGC axonal targeting and regeneration	Keratoconus biology and treatment	RPE and Inflammation	Animal models of cataract			16:00
						16:30
						17:00
					Poster Session	17:30
						18:00
						18:30
						19:00
				Gala Dinner		19:30
						20:00
						20:30
						21:00

SCHEDULE AT A GLANCE

Wednesday, September 28

Room	Concord AB	Ohgi	Nishiki	Hana A	Hana B
08:00		GLA6	COS7	RCB6	RPE7
08:30		Biomechanics of glaucoma	New diagnosis and therapies for corneal diseases	Oxidative and ER stress in retinal degenerations	Metabolic Coupling in the outer retina
09:00					
09:30					
10:00					
10:30	Plenary Lecture & The Retina Research Foundation's Paul Kayser International Award in Retina Research				
11:00					
11:30					
12:00					
12:30					
13:00		OPT6	IND6	GLA3	IND3
13:30		Matching clinical needs and novel drug delivery systems for the posterior segment of the eye	Autophagy in eye health and disorders	Restoring conventional outflow	Oxidative stress in ocular tissue
14:00					
14:30					
15:00					
15:30		JNT4 (RCB+RPE)	GLA7	COS10	LEN9
16:00		Understanding diabetic retinopathy and AMD through animal models	Biology of the TM	Dry eye	PCO/EMT
16:30					
17:00					
17:30					
18:00					
18:30					
19:00					

Wednesday, September 28

Hana C	Hana D	Natsume	Katsura	Mizuki	Room
RND5	OGM7	LEN7	OPT13	IND4	08:00
Retinal circuitry and visual signal processing	Genetics of corneal dystrophies	Lens cytoskeleton	Gene delivery to the eye	Cell-signaling in anterior segment development and dieases	08:30
					09:00
					09:30
					10:00
					10:30
					11:00
					11:30
					12:00
					12:30
COS8	IMA5	RND7	RCB5	LEN8	13:00
Ocular surface epithelial homeostasis (conjunctival, limbal, corneal)	Imaging in glaucoma and myopia	Retinal regeneration through controlled dedifferentiation	Assembly and maintenance of the phototransduction organelle	Post-translational modification of crystallins	13:30
					14:00
					14:30
					15:00
JNT9 (OPT+GLA)	OGM4	RND9	OPT10	RPE9	15:30
Therapeutic targets for retinal disease: Lessons learnt from bench side	Epigenetic modifications and non-coding RNAs In the ocular health and disease	Modeling human retinal disease	TBI (traumatic brain injury): Visual dysfunction and treatment	Inflammasomes in the RPE	16:00
					16:30
					17:00
					17:30
					18:00
					18:30
					19:00

SCHEDULE AT A GLANCE

Thursday, September 29

Room	Concord AB	Ohgi	Nishiki	Hana A	Hana B
08:00		OPT9	IMA6	RND8	COS9
08:30		Blue light and circadian system	AO in vision sciences	Mechanisms of neuroprotection	Reimbursement of ocular surface cell based therapies - Bottlenecks in bioprocessing
09:00					
09:30					
10:00					
10:30	Plenary Lecture & The Ludwig von Sallmann Prize				
11:00					
11:30					
12:00					
12:30					
13:00		LEN11	OPT12	JNT5 (RND+RCB)	RPE12
13:30		Alpha crystallins and small heat-shock proteins	Imaging biomarkers for retinal diseases	ES/iPS-based approaches to treating retinal dystrophies	RPE dysfunction in AMD: From oxidative damage to inflammasome activation
14:00					
14:30					
15:00					
15:30		OPT15	LEN12	GLA9	RCB8
16:00		Innovative approaches for retinal degeneration and therapy	Physiological optics	Status of glaucoma gene and stem cell therapy	Retinoids in vision
16:30					
17:00					
17:30					
18:00					
18:30					
19:00					

Thursday, September 29

Hana C	Hana D	Natsume	Katsura	Mizuki	Room
GLA8	RPE11	IND7	RCB7	LEN10	08:00
Distal outflow resistance: Towards understanding MIGS	Aging RPE: Proteostasis mechanisms in health and diseases	Plasticity in the visual system	Mouse to Human: Modeling AMD	The Zonule of Zinn: Biology and pathology	08:30
					09:00
					09:30
					10:00
					10:30
					11:00
					11:30
					12:00
					12:30
GLA10	IMA1	OGM11	JNT7 (OGM+GLA)	IMM4	13:00
Lymphangiogenesis, lymphatics and IOP regulation	New advances in ocular imaging - Part II	Genetics of myopia	Genetics of normal tension glaucoma	Innate mechanisms that contribute to RPE pathology	13:30
					14:00
					14:30
					15:00
RPE13	RND11	IND5	OGM12	OGM6	15:30
Lymphatics and fluid movement in the posterior eye: Recent advances and remaining controversies	Ca++ signaling in retinal ganglion cells and outer retinal neurons	Meibomian glands and meibum - From biochemistry to physiology to disease	Current concept in genetics of hereditary ocular developmental anomalies	An omics perspective on pediatric eye diseases	16:00
					16:30
					17:00
					17:30
					18:00
					18:30
					19:00

ORAL PRESENTATIONS

Sunday, September 25

Welcome Reception

19:00 – 21:00 Room: Eminence Hall

Welcome Reception

The Welcome Reception is free of charge to all registered participants.
Food and drinks will be provided.

ORAL PRESENTATIONS

Monday, September 26

Opening Ceremony

10:30 – 12:00 Room: Concord AB

Opening Ceremony & The Endre A. Balazs Prize

The Endre A. Balazs Prize 2016 is awarded to Reza Dana MD, MPH, MSc.
Dr. Dana will be introduced by Dr Patricia D'Amore.

Glaucoma

08:00 – 10:00 Room: Nishiki

GLA1 - Cell Plasticity, fibrogenic mechanisms and glaucoma

Moderators: *Vasantha Rao, Deborah Wallace*

08:00 The role of AP-2β in anterior segment dysgenesis/ fybrosis and glaucoma
J. WEST-MAYS, V. Martino, A. Ball, T. Williams

08:20 Scleral and lamina cribrosa remodeling in response to chronically elevated IOP
J.C. DOWNS

08:40 Fibrotic mechanisms in glaucoma; Lamina cribrosa and trabecular meshwork
C. O'BRIEN, F. McDonnell, M. Irnaten, A. Clark, D. Wallace

09:00 Mechanical homeostasis mechanisms in trabecular meshwork cells
G. SCHLUNCK

09:20 Effects of cytokines on aqueous outflow and fibrogenic activity of trabecular meshwork cells
T. INOUE

09:40 Trabecular meshwork cell plasticity, fibrogenic activity and IOP
V. RAO

13:00 – 15:00 Room: Ohgi

GLA2 - Major identified players in glaucoma – Genes and signaling pathways

Moderators: *Stanislav I. Tomarev, Takeshi Iwata*

13:00 Autophagy in ocular hypertension and glaucoma: more than keeping the house clean
P. LITON

13:24 Homeostatic regulation of IOP by nitric oxide
D. OVERBY, W.D. Stamer

13:48 The role of trabecular meshwork cadherins in regulation of IOP
A.F. CLARK, H. Webber, J. Bermudez, J.C. Millar, W. Mao

14:12 Neuroprotection and optic nerve regeneration for glaucoma therapy: Contribution of oxidative stress in animal models of normal tension glaucoma
T. HARADA, K. Namekata, A. Kimura, T. Noro, C. Harada

14:36 Myocilin: Ocular and extraocular functions
S. TOMAREV

08:00 – 10:00 Room: Mizuki

LEN1 - Lens development

Moderators: *Xin Zhang, Jeff Gross, Ichiro Masai*

Lens

08:00 Mechanism of ectopic lens fiber differentiation in response to early endosome trafficking defects
I. MASAI, A. Hagiwara, T. Mochizuki, Y. Kojima, Y. Nishiwaki

08:24 Neural retina identity is specified by lens-derived BMP signals
L. GUNHAGA

08:48 Lens epithelium loosing control - New mechanisms underlying fibrotic cataract
A. INBAL, K. Taler, A. Rubinstein, J. Gross

09:12 Systems biology of lens development
S. LACHKE

09:36 Regulation of lens fiber elongation by FGF signaling
X. ZHANG

13:00 – 15:00 Room: Natsume

LEN2 - Oxidative stress

Moderators: *Julie Lim, Frank Giblin*

13:00 Oxidative stress regulation of organelle function by a-crystallin
M. KANTOROW, L. Brennan, K. Bharath, J. Khoury

13:24 The effect of low dose ionising radiation on the lens epithelium
R. QUINLAN, A. Kalligeraki, R. Pal, E. Markiewicz, S. Barnard, E. Ainsbury, H. Tanaka, M. Inagaki, J.J. Wu, B. Obara

13:48 A structure-activity study for the inhibition of matrix metalloproteinase-9 production by polymethoxyflavones
Y. MIYATA, H. Kosano

14:12 Minimising oxidative stress in the anterior eye: The role of the cystine/glutamate antiporter in mediating extracellular redox balance
J.C. LIM, R.M. Martis, P.J. Donaldson

14:36 The role of PARP-1 and PAR Polymers in DNA repair and cell death in UVB-challenged human lens epithelial cells
F. GIBLIN, S. Chintala, V. Mishra, C. Cencer, D. Feldmann, M. Awrow, N. Putris, M. Geno, M. Donovan

15:30 – 17:30 Room: Mizuki

LEN3 - Biomarkers in cataractogenesis

Moderators: *Kevin Schey, Xiaohua Gong*

15:30 Genetics variances, gap junctions and fiber cell morphogenesis in cataract formation
X. GONG, C.-H. Xia, E. Wang

15:54 Lens peptidomics unravels lens aging and cataract
K. SHARMA

16:18 Protein degradation in the aging human lens
M. FRIEDRICH, B. Lyons, K. Schey, R. Truscott

16:42 Novel chemistries of aging and cataract
K. SCHEY, R. Chen, Z. Wang

17:06 Mapping and quantifying metabolites in the aging human lens using MALDI imaging
A. GREY, P. Donaldson

17:18 The effect of interaction between EPHA2 gene and environmental risk factors on cataract development
S. SHARMA, A. Dave, J. Craig, K. Skrzypiec, M. Alamein, S. Quinn, K. Burdon, N. Di Girolamo, R. U. Delongh

Cornea and Ocular Surface

08:00 – 10:00 Room: Ohgi

COS1 - Corneal infection

Moderators: *Donald Tan, Yoshitsugu Inoue*

08:00 New antimicrobial molecules against ocular pathogens – the SERI AMOP Project
D. TAN

08:24 Basic approach to viral corneal endotheliitis
Y. INOUE

08:48 Bacterial flora on the ocular surface
C. SOTOZONO

09:12 Association of type III secretory system with pathogenesis and clinical features of Pseudomonas aeruginosa keratitis
F.-R. HU

09:36 Role of inflammation on corneal nerve regression following HSV-1 infection
A. CHUCAIR-ELLIOTT, H. Gurung, D. Carr

13:00 – 15:00 Room: Nishiki

COS2 - Emerging paradigms in stromal regenerative biology

Moderators: *Che John Connon, Rajiv Mohan*

13:00 An investigation in three-dimensions of cell-directed matrix deposition in the developing cornea
A.J. QUANTOCK, R.D. Young

13:24 Extracellular matrix regulation of rorneal fibroblast patterning during stromal wound healing
W. PETROLL, P. Kivanany, K. Grose

13:48 Engineering stromal cell alignment
C.J. CONNON, R.M. Gouveia, I. Hamley, M. Gonzalez

14:12 The biology and therapeutic potential of limbal mesenchymal stromal cells
D. HARKIN

14:36 Ocular surface cell-based therapies: Opportunities and challenges in development and adoption
M. ROSENBLATT

15:30 – 17:30 Room: Hana A

COS3 - Corneal endothelium: Pathophysiology and treatment

Moderators: *Motokazu Tsujikawa, X. Sophie Deng*

15:30 Comparison in mean area between pentagonal and hexagonal cells in human cornea endothelium
M. TSUJIKAWA

15:54 Endothelial keratoplasty in Asian eyes
A. KOBAYASHI

16:18 A newly developed graft inserter for Descemet's stripping automated endothelial keratoplasty
T. SOMA

17:06 Understanding immune mechanism of corneal transplant rejection
V. PEREZ

08:00 – 10:00 Room: Katsura

JNT10 (IMM+OPT) - New molecular mechanisms and therapeutic approaches for uveitis

Moderators: *James Rosenbaum, Masaaki Kageyama*

08:00 Uveitis: Gaps in therapy and understanding
J. ROSENBAUM

08:24 The effect of intravitreal triamcinolone at the draining lymph nodes
P. LIN, C. Metea, C. Moscibrocki, Y. Nakamura, J. Rosenbaum

08:36 Local corticosteroid treatment of uveitis
G. JAFFE

Ocular Immunology

Monday, September 26

09:00 Preclinical and clinical aspects of a locally injectable mTOR Inhibitor, DE-109, for the long-term management of uveitis
A. ABRAHAM, SAKURA Study Group

09:24 PD ligand blockade decreases IRBP-induced uveitis in mice
L. GORDON, N. Ashki, A. Chan, Y. Chang, R. Levinson

09:36 Ocular autoimmunity – A collusion of development and environment
R. CASPI

13:00 – 15:00 Room: Hana A

JNT3 (IMM+RCB) - Microglia and macrophages as therapy targets for retinal diseases

Moderators: *Thomas Langmann, Heping Xu*

13:00 Dynamics of microglia and monocytes in the mouse retina in vivo
M. BURNS

13:24 Metabolic control of microglial activation
H. XU, L. Wang, M. Bhuckory, M. Chen

13:48 Complement factor H inhibits inflammation resolution
F. SENNLAUB, B. Calippe, X. Guillonneau, P. Sullivan, C. Harris, M.C. Pickering, E. Gautier

14:12 Microglial phagocytosis of living photoreceptors contributes to inherited retinal degeneration
W. WONG, L. Zhao, Unit on Neuron-Glia Interactions in Retinal Disease

14:36 Interferon-beta signaling in retinal mononuclear phagocytes attenuates pathological neovascularization
T. LANGMANN

14:48 Effect of diabetes on repair of the inner blood retinal barrier, microglia and monocyte dynamics following retinal ischemia-reperfusion injury
S.F. ABCOUWER, A. Muthusamy, S. Shanmugam, C.-M. Lin, H. Hager, D. Kong, D.A. Antonetti

Ocular Imaging

15:30 – 17:30 Room: Ohgi

IMA2 - New advances in ocular imaging - Part I

Moderators: *Maciej Wojtkowski*

15:30 Ophthalmic surgical guidance using intraoperative optical coherence tomography
Y. TAO

15:54 Wide field OCT: Technology and clinical application of retinal Megahertz imaging over up to 100° field of view
R. HUBER

16:18 Line field optical coherence tomography: High speed imaging and digital aberration correction
R. LEITGEB

16:42 Function retinal imaging by holographic OCT
G. HÜTTMANN, D. Hillmann, H. Spahr, C. Pfäffle, G. Franke, H. Sudkamp, C. Hain, C. Winter

17:06 Optical coherence tomography using visible light in human subjects
A. FAWZI, H. Zhang

RPE Choroid Biology and Pathology

08:00 – 10:00 Room: Natsume

RPE8 - Exploring the intersection between inflammation and lipid metabolism in age-related macular degeneration (AMD)

Moderators: *Goldis Malek, Rajendra Apte*

08:00 Impaired cholesterol efflux in macrophages promotes AMD
R. APTE

08:24 Additive effects of advanced age, high fat diet and complement factor H in dry AMD
C. BOWES RICKMAN

08:48 Liver x receptors (LXRs) as regulators of lipid metabolism and inflammation in dry AMD
G. MALEK, F. Tayyari, M. Choudhary, E. Ismail, J. Ruberti, Y. Wang, Z. Jiang, S. Nusinowitz, R. Radu, P. Tontonoz

09:12 Functional implications of age associated alterations in macrophage lipids
A. SENE, R. Apte

09:36 Cholesterol Crystals induce expression of inflammatory cytokines by cells vulnerable in AMD
D. VAVVAS, Y. Hu, B. Tian, H. Lin, J. Miller

13:00 – 15:00 Room: Katsura

RPE2 - Lipid dynamics at the photoreceptor-RPE nexus

Moderators: *Silvia Finnemann, Anant Menon*

13:00 Mechanism of phosphatidylserine phospholipid externalization at outer segment tips during photoreceptor outer segment renewal
S.C. FINNEMANN, N.J. Esposito

13:24 Lipofuscin fluorophores in photoreceptors and the RPE
Y. KOUTALOS, L. Adler IV, C. Chen

13:48 Phospholipid scrambling by monomeric rhodopsin
A. MENON

14:12 Retinal degeneration B (RDGB) codes for a lipid transfer protein which maintains lipid homeostasis during PLC signalling in *Drosophila* photoreceptors
S. YADAV

14:36 Light mediated regeneration of visual pigments in rods and cones: Evidence for a photic visual cycle
G. TRAVIS, J. Kaylor, T. Xu, N. Ingram, G. Fain

15:30 – 17:30 Room: Hana C

RPE4 - VEGF and beyond

Moderators: *Antonia Joussen, Olaf Strauss*

15:30 Therapeutic targeting of LRG1 reduces pathogenic neovascularisation and normalises vessels
J. GREENWOOD, S. Moss

15:54 Neuron-derived factors in retinal vascular disease
P. SAPIEHA

Monday, September 26

16:18 VEGF And myeloid cells in the context of ROP
A. JOUSSEN

16:42 Lipoprotein-associated phospholipase A2 (Lp-PLA2) is associated with breakdown of the blood retinal barrier through a VEGF-independent pathway
A. STITT

17:06 Potential androgen receptor-mediated gene regulatory pathways in a mouse model of laser-induced choroidal neovascularization
K. HORIE-INOUE, K. Ueyama, K. Mori, S. Inoue

Retinal Cell Biology

08:00 – 10:00 Room: Hana B

RCB1 - New insights on the RPE/Bruchs membrane/choriocapillaris in AMD

Moderators: *Gerard Lutty, Naoko Ogata*

08:00 Choriocapillaris dropout in eyes with early age-related macular degeneration
S. MCLEOD, J. Seddon, I. Bhutto, M. Edwards, M. Villalonga, R. Silver, A. Wenick, G. Lutty

08:24 Distribution and quantification of choroidal macrophages in aged human eyes and eyes with age-related macular degeneration
G. LUTTY, D.S. McLeod, I. Bhutto, M. Edwards, R. Silver, J. Seddon

08:48 Visualizing RPE fate in AMD through validated OCT and autofluorescence imaging
C. CURCIO

09:12 A possible role of lipid accumulation in Bruch's membrane in the pathogenesis of age-related macular degeneration
T. YASUKAWA

09:36 Complement injury to the choriocapillaris: Lytic and sublytic changes
K. CHIRCO, E. Stone, B. Tucker, R. Mullins

15:30 – 17:30 Room: Katsura

RCB2 - Inflammation in AMD

Moderators: *Patricia A. D'Amore, Yuichi Ogura*

15:30 Degranulation of choroidal mast cells: Possible involvement in the pathogenesis of age-related macular degeneration
I.A. BHUTTO, D.S. McLeod, M. Villalonga, R.E. Silver, J.M. Seddon, G.A. Lutty

15:54 DICER1 deficiency recapitulates multiple AMD phenotypes via innate immunity
B. GELFAND

16:18 Lipids, inflamasomes, and Age-related Macular Degeneration (AMD)
P.A. D'AMORE, G. Gnanaguru

16:42 Role of inflammation in age-related macular degeneration
M. NOZAKI

17:06 Defending choroidal endothelial cells from complement-mediated lysis in age-related macular degeneration
R. MULLINS, S. Zeng, M. Wu, E. Stone, B. Tucker

Retinal Neuroscience and Development

08:00 – 10:00 Room: Hana C

RND1 - Transcription control of retinal cell identity

Moderators: *Michel Cayouette, Takahisa Furukawa*

08:00 Vexin (Vxn) is a novel conserved protein that functions in the nucleus to regulate cell cycle exit and neurogenesis
M.L. VETTER, K.B. Moore, M.A. Logan, I. Al Diri, M. Steele

08:24 Sox2, Tlx, Gli3 and Her9 converge on Rx2 to define retinal stem cells in vivo
J. WITTBRODT, R. Reinhardt, T. Tavhelidse, A. Gutierrez, J. Mateo, D. Inoue, J.-R. Martinez-Morales, J.-P. Concordet, L. Centanin

08:48 Toward understanding regulation of middle wavelength-sensitive cones and the opsins in zebrafish
Y. FUKADA

09:12 Transcriptional regulation of photoreceptor cell development and maturation
T. FURUKAWA, Y. Omori, S. Kubo, M. Furuhashi

09:36 Regulation of retinal progenitor cell properties by Lhx2 and Vsx2
E. LEVINE

13:00 – 15:00 Room: Hana D

RND10 - Noncoding RNA in retinal development and disease

Moderators: *Brian Perkins, Ruth Ashery-Padan*

13:00 The role of miRNAs in the development of the retinal pigmented epithelium
R. ASHERY-PADAN, B. Weiman-Kelman, R. Ohana

13:24 microRNAs in retinal progenitor competence
A. DE LA TORRE

13:48 The miR-204/211: Two micro-regulators of eye development and disease
I. CONTE

14:12 The role of the miR183/96/182 cluster in zebrafish retinal development
J. FOGERTY, B. Perkins

14:36 Identification and characterization of long noncoding RNAs in retinal progenitor cell competence
B. CLARK, T. Thien, C. Zibetti, E. Aranda-Michel, S. Blackshaw

15:30 – 17:30 Room: Hana D

RND2 - Epigenetics in development and disease

Moderators: *Seth Blackshaw, Sumiko Watanabe*

15:30 Retinal Cell lineage specific modification of Histone H3 during retinal development
S. WATANABE

15:54 The ATRX chromatin remodeling protein is required in bipolar cells for the non cell-autonomous survival of amacrine and horizontal cells
D. PICKETTS, P. Lagali, C. Medina, B. Zhao, K. Yan, A. Baker, S. Coupland, C. Tsilfidis, V. Wallace

16:18 Regulation of temporal identity in mouse retinal progenitor cells
M. CAYOUETTE, P. Mattar, M. Stevanovic

16:42 Ronin (Thap11) regulates retinal progenitor cell proliferation and is implicated in a novel variant of Cobalamin Deficiency Syndrome
R. POCHE, A. Achilleos, X. Tong

17:06 Integrated ChIP-Seq analysis and epigenomic profiling of early and late-stage retinal progenitor cells identifies a central role for Lhx2 in controlling developmentally regulated modules of coordinately accessible chromatin
C. ZIBETTI, S. Liu, J. Wan, J. Qian, S. Blackshaw

17:18 Long range genomic interactions regulate photoreceptor gene expression and are affected In retinal disease models
P. RUZYCKI, C. Linne, X. Zhang, S. Chen

Ocular Pharmacology and Therapeutics

08:00 – 10:00 Room: Hana A

OPT1 - Translational studies in glaucoma - How do we make basic science studies in glaucoma more clinically relevant: Development of a consensus

Moderators: *Carol Toris, Cheryl L. Rowe-Rendleman*

08:00 What is the role of the basic science research laboratory?
C. TORIS

08:24 Animal models of glaucoma and their translatability into the clinic
A. WHITLOCK

08:48 Clinical investigations on rho kinase inhibitors-1 year after approval
H. TANIHARA

09:12 Control of glaucoma by the brain - Translational studies
W. SPONSEL

09:36 Neuroprotection and neuroregeneration of retinal ganglion cells from basic science to clinic
A. SMEDOWSKI

13:00 – 15:00 Room: Hana C

OPT2 - Translational ophthalmology: Novel targets and their development into the clinic

Moderators: *Claire Gelfman, Hidenobu Tanihara*

13:00 Preclinical path forward for a dry eye product that inhibits mitochondrial oxidative stress
C. GELFMAN, G. Ousler, L. Belen, A. Petrov, A. Whitlock

13:24 A first-in-class oligonucleotide based ophthalmic therapeutic for vascular leakage
J. GAMBLE

13:48 Transplantation of autologous iPS cell-derived RPE cell sheets for exudative AMD: A pilot clinical study
Y. KURIMOTO

14:12 The translational research to qualify cultured human corneal endothelial cells for cell infusion therapy as homogeneous fully differentiated cells
J. HAMURO

14:36 Gene and drug based therapy prevents retinal degeneration in a mouse model of geographic atrophy
M.R. BISWAL, C. Ildefonso, C. Ahmed, A. Lewin

15:30 – 17:30 Room: Hana B

OPT11 - Dry eye diagnosis

Moderators: *Christophe Baudouin, Mourad Amrane*

15:30 Staining of ocular surface: Optimizing diagnosis and interpretation. Basis of successful surgery and adaptive therapy of dry eye
G. VAN SETTEN

15:54 Inflammation in the diagnosis of Dry Eye Disease
C. BAUDOUIN

16:18 Biomarkers in Dry Eye Disease
A. LEONARDI

16:42 Tear Osmolarity in the Diagnosis of Dry Eye Disease - Recent Findings and the Future
M. LEMP

17:06 Functional visual acuity in Dry Eye Disease
E. MESSMER

15:30 – 17:30 Room: Nishiki

JNT8 (OPT+GLA) - Sustained glaucoma therapy and ocular drug delivery

Moderators: *Sri Mudumba, Kazuhito Yamada, Morgan Fedorchak*

15:30 Liposomes for sustained glaucoma therapy
T. WONG

15:54 Development of ENV515 Travoprost XR therapy with target duration of treatment effect >6 months
B. YERXA, R. Schiffman, T. Navratil, S. Pittman, R. Verhoeven, A. Garcia, V. Conley, S. Das, A. Nadkarni, J. Tully, K. Hamby, J. Hansen, L. Trevino

16:18 Semi-fluorinated alkanes for topical ocular delivery of Cyclosporine A
P. AGARWAL, D. Scherer, B. Günther, I. Rupenthal

16:42 A nanoparticle formulation enhances the corneal permeability of disulfiram and reduces its corneal toxicity
Y. ITO, N. Nagai, A. Ueno, N. Okamoto, Y. Shimomura

17:02 Maintaining IOP with the INNFocus MicroShunt® 3 years and beyond
Y.P. KATO, J. Batlle, R. Alburquerque, A. Corona Peralta, L. Pinchuk, B.A. Weber, J.-M. Parel

08:00 – 10:00 Room: Hana D

OGM1 - Genetics of multifactorial eye diseases

Moderators: *Anneke den Hollander, Eiko de Jong*

08:00 Genetics of AMD
M. DEANGELIS

08:24 Genetics of diabetic retinopathy
L. SOBRIN

08:48 Genetic aspects of chronic central serous chorioretinopathy
E.K. DE JONG, R.L. Schellevis, M.B. Breukink, C.B. Hoyng, J. Keunen, S. Fauser, A.I. den Hollander, C.J.F. Boon

09:12 Molecular genetics of polypoidal choroidal vasculopathy
Z. YANG

Ophthalmic Genomics

Monday, September 26

13:00 – 15:00 Room: Hana B

OGM2 - Molecular genetics of eye disease

Moderator: *Qingjiong Zhang*

13:00 Mutations in lens-specific genes: Cataract and beyond
Q. ZHANG

13:24 Retinal degeneration (RD) due to the involvement of hASRGL1: Mouse and zebrafish models with mutant ASRGL1 develop retinal degeneration
P. BISWAS, V.R.M. Chavali, G. Agnello, E. Stone, M. Homsher, G.B. Reddy, J.F. Hejtmancik, G. Georgiou, S.A. Riazuddin, R. Ayyagari

13:48 The role of ubiquitin pathway in maintaining calcium homeostasis and lens transparency
K. LIU, L. Lyu, M.-L. Chang, S. Rowan, A. Taylor

14:12 Spatial and temporal dissection of pathogenesis in a model of anterior segment dysgenesis and glaucoma caused by a Col4a1 mutation
D. GOULD, M. Mao, Y. Ou, M. Kiss

14:36 AMD genetics in Indian sub continent: Trends and gaps
Akshay Anand

15:30 – 17:30 Room: Natsume

OGM3 - Asian eye genetics

Moderators: *Takeshi Iwata, Sundaram Natarajan*

15:30 Developing international research collaborations in eye diseases - Asian Eye Genetics Consortium
G. PRAKASH, T. Iwata

15:42 Association of A69S missense polymorphism of ARMS2 gene with age-related macular degeneration in indian population
S. NATARAJAN, S. Rajkumar, V. Chavan, S. Nare

15:54 Genetic studies on Behcet's disease and VKH syndrome in Chinese population
P. YANG

16:18 Genes associated with treatment outcome of age-related macular degeneration in Japanese
K. YAMASHIRO, ANGEL study group

16:42 Mutation spectrum in a large cohort of inherited retinal dystrophy patients revealed by next-generation sequencing
Z.-B. JIN

17:06 Keratoconus: Globally and in the Middle East; Epidemiology, genetics and future research
A. MOUSA

13:00 – 15:00 Room: Mizuki

IND1 - Expanding the functions of ocular surface innevation: Photophobia and photoallodynia

Moderators: *Juana Gallar, Takayoshi Masuoka*

Independent Session

13:00 Photophobia and other neuropathic like symptoms in dry eye
A. GALOR, E. Felix, R. Levitt, C. Sarantopoulos

13:24 A potential role for melanopsin-expressing trigeminal neurons in photoallodynia and corneal function
A. MATYNIA, E. Nguyen, X. Sun, S. Parikh, Z.Z. Wang, L. Perez de Sevilla Mueller, S. Nusinowitz, S. Barnes, N. Brecha, M.B. Gorin

13:48 Possible contribution of glutamate receptors in ocular hyperalgesia
T. MASUOKA, T. Ishibashi, M. Nishio

14:12 Sensitization of peripheral ocular nociceptors and central mechanisms contributing to photoallodynia
J. GALLAR, C. Luna, C. Belmonte, M.C. Acosta

12:00 – 13:00 Room: Nishiki

Industry Sponsored Session - Risk factors and mechanisms of macular disorders

Moderator: *Takeshi Iwata*

Industry Sponsored Session

Santen

12:00 Genetics of AMD: Modeling complex disease
N. B. Haider

12:15 Subretinal drusenoid deposit in AMD - Histology and high-resolution imaging
C. A. Curcio

12:30 Occult Macular Dystrophy (Miyake's disease); nationwide and international collaborative studies
K. Fujinami

12:45 Questions & Answers

Tuesday, September 27

Plenary Lecture

10:30 – 11:45 Room: Concord AB

Plenary Lecture & The Ernst H. Bárány Prize

The Ernst H. Bárány Prize is awarded to Lloyd Paul Aiello, MD, PhD.
Dr. Aiello will be introduced by Dr. Patricia D'Amore.

Glaucoma

08:00 – 10:00 Room: Hana A

JNT1 (GLA+OMG) - Genetics of glaucoma

Moderators: *Tin Aung, Michael Hauser*

08:00 Recent advances in the genetics of angle closure glaucoma
T. AUNG, Angle Closure Glaucoma Genetics Consortium

08:24 Cacna2d1: A novel therapeutic target for lowering IOP
M. JABLONSKI, D. Maria, X. Wang, J. Wiggs, R. Williams, S. Chintalapudi

08:48 Primary open-angle glaucoma: Hereditable and ethnic effects
C.C.P. PANG

09:12 A large scale international genome-wide association study of exfoliation syndrome
M. OZAKI, Exfoliation Syndrome Genetics Consortium

09:36 Functional analysis of the LOXL1 locus associated with exfoliation glaucoma
M. HAUSER

13:00 – 15:00 Room: Nishiki

GLA4 - ONH/NFL imaging in glaucoma

Moderators: *Ki-Ho Park, Gouji Tomita*

13:00 Inner retinal layer imaging in glaucoma
M. HANGAI

13:24 Impact of lamina cribrosa morphology in glaucoma
K.-H. PARK

13:48 Imaging of Optic Nerve in eyes with pathologic myopia
K. OHNO-MATSUI

14:12 Implications of optic disc tilt in the progression of primary open-angle glaucoma
K.R. SUNG

14:36 Bruch's Membrane Opening (BMO) and BMO-minimum rim width (BMO-MRW) in a normal Japanese population
G. TOMITA

15:30 – 17:30 Room: Ohgi

GLA5 - Translaminar pressure gradient and glaucoma progression

Moderator: *Jost Jonas*

15:30 Intracranial pressure a new risk factor for glaucoma
N. WANG

15:50 Cerebrospinal fluid pressure influence upon the translaminar pressure gradient and retinal veins
W. MORGAN, C. Lind, M. Hazelton, P. House, D.-Y. Yu

16:10 The interaction between IOP and ICP
M. GREENWOOD, J. Berdahl

16:30 Anatomical features of the optic nerve head in relationship to the trans-lamina cirbrosa pressure difference
J. JONAS

16:50 Impact of elevated pressure in the adenosinergic system in microglia and retina
M.H. MADEIRA, C.R. Neves, I. Aires, R. Boia, J. Vinderinho, A. Ortin-Martinez, M. Vidal-Sanz, M. Agudo-Barriuso, A.F. Ambrósio, A.R. Santiago

17:10 Aphakic glaucoma after pars plana-lensectomy with and without removal of the peripheral lens capsule – A comparative study
W. LAGRÈZE, C. Wolf, H. Link, U. Gilles, D. Böhringer, M. Stech

08:00 – 10:00 Room: Natsume

LEN4 - Lens regeneration and evolution

Moderators: *Chikafumi Chiba*

08:00 Loss and gain of the lens in the evolution of cephalopods
A. OGURA

08:24 Approaching newt lens regeneration by transgenesis
C. CHIBA, P. Tsonis

08:48 Cell signaling and lens regeneration: Diverse developmental mechanisms
J. HENRY, K. Perry, A. Thomas, P. Hamilton

09:12 Measuring eye lens biometrics rapidly – Taking the pain out of quanitifying cell density, profileration rates and TUNEL in lens samples
A. KALLIGERAKI, R. Pal, M. Jarrin, B. Obara, J.J. Wu, R. Quinlan

Lens

Tuesday, September 27

13:00 – 15:00 Room: Hana A

LEN5 - Channels and transporters

Moderators: *Thomas White, Nick Delamere*

13:00 TRP channels as master controllers of homeostasis in the lens
N. DELAMERE, A. Mandal, M. Shahidullah

13:24 Dynamic regulation of lens volume: Roles for channels, transporters and their signalling pathways
P. DONALDSON, C. Wickremesinghe, I. Vorontsova, J. Lim

13:48 Unconventional roles of Connexin 50 in lens cell adhesion and differentiation
J. JIANG, Z. Hu, S. Gu, K. Wang, S. Biswas, A. Shiels, T. White, W.-K. Lo

14:12 Connexin specific lens signalling
T. WHITE, L. Li, R. Lin, C. Sellitto

14:36 Connexin 46 G143R mutation on intracellular loop domain alters its interaction with calmodulin and gating of hemichannels
Z. HU, S. Gu, B. Wang, R. Brenner, J.X. Jiang

14:48 Structural role for Aqp0b in the zebrafish lens
I. VORONTSOVA, I. Gehring, T.F. Schilling, J.E. Hall

15:30 – 17:30 Room: Mizuki

LEN6 - Animal models of cataract

Moderators: *Shizuya Saika, Judith West-Mays*

15:30 Cataract surgery and cognitive function: epidemiological evidence from the HEIJO-KYO cohort
K. MIYATA, K. Obayashi, K. Saeki, T. Nishi, T. Ueda, T. Yoshikawa, N. Kurumatani, N. Ogata

15:54 Application of different rodent models to further our understanding of fibrotic cataract pathology
F.J. LOVICU

16:18 EMT-type cataract in mice; Roles of TGFb-related signals
K. SHIRAI

16:42 Identification of gene mutations responsible for cataract in mouse and rat models
K. WADA, Y. Kikkawa

17:06 Is it possible to induce ultraviolet radiation nuclear cataract in the rabbit?
S. LÖFGREN, M. Kugelberg

Cornea and Ocular Surface

08:00 – 10:00 Room: Ohgi

COS4 - Corneal refractive surgeries

Moderators: *Choun-Ki Joo, Shirou Amano*

08:00 Intralase enabled keratoplasty(IEK): Optimal design and size
C.-K. JOO

08:24 Comparison of laser in situ ketatomileusis and photorefractive keratectomy in ten-year follow-up using a mixed effect model
S. AMANO, Y. Mori, K. Miyata

08:48 Deep anterior lamellar keratoplasty in unusual situations
N. SHARMA

09:12 Big-bubble technique with automatic depth-sensing needle for precision lamellar keratoplasty
Y.-S. YOO, S. Moon, S.-W. Shin, W.-G. Jung, C.-K. Joo

09:36 The role of vitamin D in the eye: Two month oral vitamin D supplement in people with dry eye/low vitamin D
C.H. YANG, J. Albietz, D. Harkin, M. Kimlin, K.L. Schmid

13:00 – 15:00 Room: Ohgi

COS5 - Cornea transplantation and keratoprothesis

Moderators: *Winston Kao Ben, Jun Shimazaki*

13:00 Cell and gene therapy of gongenital and acquired cornea diseases
W. KAO, V.J. Coulson-Thomas, T. Ferreira, J. Zhang, T. Rice, C.-Y. Liu

13:24 Endothelial keratoplasty in Japan
J. SHIMAZAKI, T. Yamaguchi

13:48 Deep Anterior Keratoplasty (DALK) for ocular surface disease
S. SHIMMURA

14:12 Functional testing of the corneal endothelium before and after DSAEK for Fuchs endothelial dystrophy
J. HJORTDAL, E. Nielsen

14:36 Keratocyte plasticity and the potential for harnessing it for in vivo regeneration of the corneal stroma
C. GREENE, V. Johnson, M. Dickinson, C. Green, T. Sherwin

15:30 – 17:30 Room: Natsume

COS6 - Keratoconus biology and treatment

Moderators: *Naoyuki Maeda, Vishal Jhanji*

15:30 Quality of vision in keratoconus
N. MAEDA

15:54 Keratoconus: A systemic disease
D. KARAMICHOS

16:18 Advancements in early diagnosis of Keratoconus
V. JHANJI

16:42 Keratoconus: Emerging disease genes and pathways
S. CHAKRAVARTI

17:06 Corneal regulatory molecular networks driving Keratoconus
A. GHOSH

Ocular Immunology

08:00 – 10:00 Room: Mizuki

JNT12 (IMM+RPE) - RPE regulation of innate immune activity and functionality in macrophages

Moderators: *Andrew W. Taylor, Masaru Takeuchi, Kouichi Ohta*

08:00 RPE cells differentiated from iPS cells possess immune functions similar to primary RPE cells
S. SUGITA

08:24 RPE regulation of macrophage phagocytosis and antigen processing pathways
A. TAYLOR

08:48 Retinal microglia are critical for subretinal neovascularization in a murine model of macular telangiectasia
Y. USUI, T. Kurihara, H. Goto, M. Friedlander

09:12 Nonclassical macrophages and neovascular remodeling in neovascular AMD
P. METTU, L. Yu, P. Saloupis, S. Cousins

09:36 Abundance of nonclassical macrophages in postmortem eyes with dry age-related macular degeneration
E. LAD, S. Cousins, N. Cardakli, S. Farsiu, A. Proia

13:00 – 15:00 Room: Katsura

JNT6 (IMM+OPT) - Molecular mechanisms of fibrosis in eye tissues

Moderators: *Ram Nagaraj, Michael Wormstone*

13:00 Ironing out the wrinkles of lens fibrosis
M. WORMSTONE, J.A. Eldred, L. Wang, L.J. Dawes

13:24 Myofibroblasts and non-TGFb Smad signaling in corneal stroma
S. SAIKA

13:48 AGE-RAGE interaction in fibrosis of lens epithelial cells
R. NAGARAJ, M. Smuda, A. Smith, M. Glomb, M. Wormstone, C. Raghavan

14:12 αB-crystallin regulates subretinal fibrosis by modulation of epithelial-mesenchymal transition
K. ISHIKAWA, D.R. Hinton, R. Kannan

14:36 Role of Smad3 signal in angiogenic/fibrogenic reaction in mouse choroid post-laser irradiation
H. IWANISHI

15:30 – 17:30 Room: Katsura

JNT2 (IMM+RPE) - RPE and Inflammation

Moderators: *Florian Sennlaub, Olaf Strauss*

15:30 Fate mapping distinguishes migration patterns of microglia versus monocyte-derived macrophages to the RPE in inflammation
D. SABAN

15:54 The RPE response to complement attack
S. MOSS, J. Greenwood

16:18 The transitional zone of geographic atrophy lesions: Mononuclear phagocyte interactions with RPE and photoreceptors
X. GUILLONNEAU, T. Mathis, H. Charles-Messance, S. Augustin, F. Beguier, S. Reichman, J.-A. Sahel, O. Goureau, C. Eandi, F. Sennlaub

16:42 Spleen-derived monocytes in RPE-adjacent subretinal inflammation
C. ROUBEIX, S. Lavalette, S. Crespo-Garcia, S. Augustin, N. Reichhart, X. Guillonneau, O. Strauss, F. Sennlaub

08:00 – 10:00 Room: Nishiki

IMA3 - OCT angiography and Doppler OCT

Moderators: *Rainer Leitgeb, Jacque L. Duncan, Brandon Lujan*

08:00 Blood velocity, flux and flow: Objective measurements of single cell hemodynamics in the living retina
J. SCHALLEK, A. Joseph, A. Guevara, Metabolic Imaging/ Blood Flux and Functional Imaging

08:24 Optical coherence tomography angiography: Split-spectrum amplitude-decorrelation angiography
B. LUJAN, D. Huang, Y. Jia

08:48 Advanced OCT angiography for simultaneous pigment and vascular imaging
Y. YASUNO

09:12 Measurement of total retinal blood flow by multi-beam Doppler OCT
C. HITZENBERGER

15:30 – 17:30 Room: Nishiki

IMA4 - Functional & contrast enhanced imaging

Moderators: *Jesse Schallek, Christoph Hitzenberger*

15:30 PS OCT in the anterior segment
S. HOSHI

15:54 Jones-matrix OCT for non-invasive multi-contrast imaging
S. MAKITA, Y. Ikuno, M. Miura, Y. Yasuno

16:18 Neurovascular coupling in the retina
G. GARHOFER

16:42 Fluorescence Lifetime Imaging Ophthalmoscopy FLIO
M. ZINKERNAGEL, C. Dysli, S. Wolf

17:06 Visible-light OCT-based functional and multimodal retinal imaging
S. JIAO, R. Wen, B. Lam

Ocular Imaging

Tuesday, September 27

RPE Choroid Biology and Pathology

13:00 – 15:00 Room: Mizuki

RPE6 - The Next Best thing: Making sense of the bestrophinopathies

Moderators: *Alan Marmorstein, Olaf Strauss*

13:00 Insights into autosomal recessive bestrophinopathy from a "disease in a dish" model
A. MARMORSTEIN, B. Gilles, L. Bachman, L. Marmorstein, J. Pulido

13:24 Unexpected roles of Best1 in the brain: the channel-mediated release of gliotransmitters, glutamate, and GABA, and its role in excitation/inhibition balance
C.J. LEE, A. Marmorstein

13:48 Trafficking defects of mutant bestrophins: Implications for calcium channel activity
O. STRAUSS, N. Reichhart, M. Markowski

14:12 The First Best Thing: Insights from a Naturally Occurring Animal Model of BEST1-Associated Maculopathies
K.E. GUZIEWICZ, W.A. Beltran, A.V. Cideciyan, A.M. Komáromy, S. Iwabe, A. Dhingra, K. Boesze-Battaglia, W.W. Hauswirth, S.G. Jacobson, G.D. Aguirre

14:36 The effect of premature stop mutation in bestrophin-1 on calcium signaling in retinal pigment epithelium
S. NYMARK, B. Nommiste, I. Vainio, A. Abu Khamidakh, K. Juuti-Uusitalo, L. Da Cruz, A. Webster, T. Moore, P. Coffey, O. Strauss, A.-J. Carr

Retinal Cell Biology

08:00 – 10:00 Room: Hana B

RCB3 - Retinopathy of Prematurity

Moderators: *Sylvain Chemtob, Mary Elizabeth Hartnett*

08:00 The role of angiotensin in modulating the inner retina during retinopathy of prematurity
K. VESSEY, L. Downie, K. Hatzopoulos, J. Phipps, J. Wilkinson-Berka, E. Fletcher, Retinal Cell Biology

08:24 Role of extracellular matrix in retinal vascular patterning
W.J. BRUNKEN, S. Biswas, D. Hunter, G. Bachay

08:48 Synergistic suppression of retinal angiogenesis and oxidative and inflammatory damages by caffeine and Ibuprofen in neonatal rats
J.V. ARANDA, K. Beharry

09:12 Studying effects of intrauterine growth restriction on retinopathy of prematurity with rodent models
M.E. HARTNETT, S. Becker, R. Lane, C. Fung, D. Shi, H. Wang

09:36 Nuclear localization of platelet-activating factor receptor controls retinal neovascularization in model of retinopathy of prematurity
S. CHEMTOB, V. Bhosle, J.-C. Rivera, E. Zhou, T. Zhu, A. Ribeiro-da-Silva

15:30 – 17:30 Room: Hana B

RCB4 - Signal transduction in the retina

Moderator: *Alexander Dizhoor*

15:30 Activation-induced conformational changes in arrestin
V. GUREVICH, Y. Kang, Q. Chen, E. Xu, T. Iverson

15:54 Protein interactions of retinal guanylyl cyclase in phototransduction and congenital blinding disorders
A. DIZHOOR

16:18 Organization of the synaptic signaling cascade at the rod photoreceptor synapse
K. MARTEMYANOV

16:42 A novel mechanism that drives retinal ganglion cell oscillation in a retinal deafferentated mouse model
C.-K. J. CHEN

17:06 Short term adaptations In rods triggered by retinoid release
T. KRAFT, A. McKeown, M. Loop

08:00 – 10:00 Room: Hana C

RND4 - Establishment of retinal circuitry and synapses

Moderators: *Jeremy Kay, Kirill Martemyanov*

08:00 Starburst amacrine cells orchestrate assembly of retinal direction-selective circuitry
J. KAY, T. Ray, M. Stogsdill

08:24 Bipolar cell dendritic rearrangements following temporally and spatially controlled cone ablation
F. DUNN, I. De la Huerta, S. Pan, C. Gamlin, R. Care

08:48 Molecular mechanisms of photoreceptor synaptogenesis
Y. CAO, K. Martemyanov

09:12 Molecular mechanisms of retinal circuit assembly
D. KERSCHENSTEINER

09:36 LIM code of light-adaptive retinal circuitry
J.W. KIM, Y. Kim

09:48 Intrinsically-photosensitive retinal ganglion cells control cone photoreceptor lamination during retinal development
A. TUFFORD, P. Mattar, T. Schmidt, S. Hattar, M. Cayouette

13:00 – 15:00 Room: Hana D

RND3 - Cell-cell signaling and retinal development

Moderators: *Jin Woo Kim, Helen McNeil*

13:00 The Hippo/YAP pathway in reactive Müller cells
M. PERRON, A. Hamon, C. Masson, J. Bitard, E.-K. Grellier, L. Gieser, J. Roger

13:24 Mechanisms of differential signaling among retinal progenitors during neurogenesis
B. LINK

Retinal Neuroscience and Development

Tuesday, September 27

13:48 A Notch-Gli2 axis sustains Hedgehog responsiveness of neural progenitors and Müller glia
V.A. WALLACE, R. Ringuette, M. Atkins, P. Lagali, E. Bassett, C. Campbell, C. Mazerolle, A.J. Mears, D.J. Picketts

14:12 Fat3-dependent mechanisms of amacrine cell morphogenesis
L. GOODRICH, A. Krol, S. Henle

14:36 Combinatorial actions of the clustered Protocadherins in retinal circuit patterning
J. LEFEBVRE

15:30 – 17:30 Room: Hana D

RND6 - RGC axonal targeting and regeneration

Moderators: *Zhigang He, David Feldheim*

15:30 Plexin-A1 and Semaphorin-6D are involved in retinal axon fasciculation and targeting
A. REBSAM, D. Prieur, C. Francius, C.A. Mason

15:54 Reciprocal connections between cortex and thalamus contribute to retinal axon targeting to dorsal lateral geniculate nucleus
J. ZHANG, RGC Axonal Targeting and Regeneration

16:18 Retinal origin of direction selectivity in the mouse superior colliculus
J. CANG

16:42 Formation of retinal ganglion cell types
D. FELDHEIM

17:06 Restoration of visual function by promoting axon regeneration and conduction
Z. HE

Ocular Pharmacology and Therapeutics

08:00 – 10:00 Room: Hana D

OPT7 - Novel molecular mechanisms of diabetic retinopathy

Moderators: *Sayon Roy, Renu Kowluru*

08:00 Role of connexin 43 in human diabetic retinopathy
S. ROY, T. Tien, T. Muto, R.F. Mullins, E.H. Sohn

08:24 MicroRNAs: Social network for diabetic retinopathy
M. BARTOLI, M. Thounaojam, F.L. Powell, D. Gutsaeva, P.M. Martin

08:48 Molecular mechanism for the retina-protective effect of PPARalpha
J.-X. MA

09:12 Beta-adrenergic receptor inhibition of inflammatory pathway in the diabetic retina
J. STEINLE, Y. Jiang, L. Liu

09:36 Neuroretinal changes in diabetes: Lessons learned from post-mortem human tissues
P. FORT, Y. Shan, Y. Qi, A. Myers

13:00 – 15:00 Room: Hana C

JNT11 (OPT+IMM) - An intersection of receptor signaling pathways with neuro-inflammation (inflammasome)

Moderators: *Valery Shestopalov, Ana Raquel Santiago*

13:00 Modulation of inflammation with third generation antisense oligonucleotides in ocular pathology and beyond
W. JIANG

13:24 The blockade of adenosine A2A receptor affords neuroprotection through the control of microglia-mediated neuroinflammation in experimental models of glaucoma
A.R. SANTIAGO, M.H. Madeira, R. Boia, I.D. Aires, C.R. Neves, A.F. Ambrósio

13:48 Panx1-mediated danger signaling and caspase activation in IOP-induced ischemia and glaucoma
V. SHESTOPALOV, G. Dvoriantchikova, S. Kurtenbach, A. Reiser, Z. Kokzhekbaeva

14:12 Mechanical strain primes the inflammasome in astrocytes through the P2X7 receptor
C. MITCHELL, F. Albalawi, W. Lu

15:30 – 17:30 Room: Hana A

OPT8 - Prostaglandins for ocular hypertension treatment: A new era is dawning

Moderators: *Naj Sharif, Filippo Drago*

15:30 What are PG-receptor deficient mice teaching us about IOP regulation?
M. AIHARA

15:54 Latanoprostene Bunod, an FP agonist-NO donor conjugate ocular hypotensive agent
A. KRAUSS

16:18 EP_2 receptor agonists as novel drugs to treat OHT and glaucoma
N. SHARIF

16:42 Prostaglandin EP4 agonists: Potent IOP lowering agents that increase outflow facility
G. PRASANNA, E. Zhou

17:06 Ocular blood flow enhancement and possible neuroprotective effects with topically instilled prostaglandins
M. ARAIE

Tuesday, September 27

Ophthalmic Genomics

08:00 – 10:00 Room: Katsura

OGM9 - Genomics of ophthalmic diseases

Moderator: *Dongfeng Chen*

08:00 Profiling of epigenetic landscape changes reveals gene mis-regulation mechanisms in mouse models of CRX-linked retinopathies
P. RUZYCKI, X. Zhang

08:24 Epigenetic changes associated with age-related macular degeneration
J. QIAN, J. Wang, C. Zibetti, P. Zhang, D. Zack, J. Handa, S. Merbs, S. Blackshaw

08:48 Epigenetic regulation of retinal development
D.F. CHEN, N. Yan, L. Wong, L. Cheng, Z. Jiang, R.C. Rao, K. Cho

09:12 Altering ocular disease phenotypes by RNA manipulation approaches
C.Y. GREGORY-EVANS, N. Sannan, K. Gregory-Evans

13:00 – 15:00 Room: Natsume

OGM5 - Congenital stationary night blindness from A-Z

Moderators: *Christina Zeitz, Yozo Miyake*

13:00 Phenotypes in patients with CSNB
I. AUDO, S. Mohand-Saïd, J.-A. Sahel, C. Zeitz

13:24 Grm6 missense mutation reduces but does not eliminate mGluR6 expression and ON bipolar cell function
N. PEACHEY, N. Hasan, G. Pangeni, B. Chang, M. McCall, R. Gregg

13:48 Gene defect identification in CSNB
C. ZEITZ

14:12 Role of TRPM1 channel in retinal circuit development
T. KOZUKA, M. Shimada, F. Tamalu, T. Chaya, S. Mikusa, T. Furukawa

14:36 Melanoma associated retinopathy: A paraneoplastic syndrome with CSNB-like characteristics
C.W. MORGANS, T.L. Haley, G. Ren, R.M. Duvoisin

15:30 – 17:30 Room: Hana C

OGM10 - Genetics of retinal degenerations

Moderators: *Radha Ayyagari, Carlo Rivolta*

15:30 Discovery of the underlying cause of inherited retinal degeneration by ext generation sequencing: Challenges and opportunities
R. AYYAGARI

15:54 Simple and complex ABCA4 disease
R. ALLIKMETS

16:18 Mutations in *CEP78* define a new ciliopathy characterized by cone-rod dystrophy and hearing loss
C. RIVOLTA

16:42 Genetic modifiers interact with *Crb1* to cause neovascularization in the posterior eye
P. NISHINA, G. Collin, W. Hicks, L. Stone, J. Naggert, M. Krebs, B. Chang

17:06 Gene therapy rescues despite late-stage, low-efficiency treatments
S. KOCH, J. Duong, C.-W. Hsu, Y.-T. Tsai, C.-S. Lin, S. Tsang

17:18 Identification and functional analysis for novel gene mutation responsible for autosomal dominant macular dystrophy with dysfunction of ON-type bipolar cells
Y. KAWAMURA, T. Fujimaki, K. Yoshitake, K. Tsunoda, A. Suga, K. Ikeo, A. Murakami, T. Iwata

13:00 – 15:00 Room: Hana B

IND2 - Electrophysiology of vision

Moderators: *Mineo Kondo, Pierre Lachapelle*

Independent Session

13:00 Clinical application of photopic negative response to optic nerve and retinal diseases
S. MACHIDA

13:24 Electroretinography of retino-geniculate pathways with relevance for vision; Implications for clinical electrophysiology
J. KREMERS

13:48 Basic research and clinical application of RETeval, new mydriasis-free full-field ERG recording device
M. KONDO, K. Kato, K. Ikesugi, M. Sugimoto, H. Matsubara, M. Fukuo, S. Kitano

14:12 Could birth asphyxia impair the retina more than the brain?
P. LACHAPELLE, M. Ghabraie, I. Godbout, U. Khan, A. Brassard-Simard, S. Jung, A. Polosa, A.L. Dorfman, P. Wintermark, J.M. Little

19:30 – 21:30 Room: Eminence Hall

Gala Dinner

Gala Dinner

19:30 Arrival of guests, Welcome Speech
19:40 1st course is served
19:50 Dance performance by Geishas (30 min)
20:20 2nd course is served
20:40 3rd course is served
21:00 Dessert is served, Geishas serve drinks and are available for photos
21:15 Coffee
21:30 End of Gala Dinner

Wednesday, September 28

Plenary Lecture

10:30 – 11:45 Room: Concord AB

Plenary Lecture & The Retina Research Foundation's Paul Kayser International Award in Retina Research

The Retina Foundation's Paul Kayser International Award in Retina Research is awarded to King-Wai Yau, PhD.
Dr. Yau will be introduced by Dr. Theodore G. Wensel.

Glaucoma

08:00 – 10:00 Room: Ohgi

GLA6 - Biomechanics of glaucoma

Moderators: *Ross Ethier, Michael J.A. Girard*

08:00 MRI-based finite element analysis predicts large optic nerve head strains during horizontal eye movements and validations using optical coherence tomography
M.J.A. GIRARD, H. Rumpel, T.A. Tun, M. Beotra, M. Baskaran, S. Perera, W.E.H. Lim, M. Nongpiur, T. Aung, D. Milea, X. Wang

08:20 Measuring the pressure-induced full-field deformation of the human lamina cribrosa
T. NGUYEN

08:40 Measuring lamina cribrosa curvature for assessing optic nerve head strains
T.-W. KIM

09:00 Determination of iris mechanical properties using image-based finite element modelling
R. AMINI, A. Pant

09:20 Estimates of trabecular meshwork stiffness using novel approaches
C.R. ETHIER, K. Wang, M.A. Johnstone, C. Xin, S. Padilla, A.T. Read, J.A. Vranka, T.S. Acott, R.K. Wang, T. Sulchek

09:40 High throughput screening for glaucoma drugs using cellular contractile force
C. PARK, E. Gabriel, R. Hirsch, G. Hunt, S. Yao, E. Watts, W.D. Stamer, M. Johnson, J. Fredberg

13:00 – 15:00 Room: Hana A

GLA3 - Restoring conventional outflow

Moderators: *Yiqin Du, Nils Loewen*

13:00 Molecular and cellular components of compromised and restored IOP homeostasis in glaucoma
T. ACOTT, J. Vranka, K. Keller, J. Bradley, M. Aga, X. Li, D. Abu-Hassan, M. Kelley

13:20 Prevention of glaucoma phenotypes through iPSC-TM transplantation in vivo
M. KUEHN, W. Zhu

13:40 From fistula to reconstruction
N. WANG

14:00 Therapeutic effect analysis on the treatment of congenital glaucoma through modified combined trabeculotomy-trabeculectomy
X.-B. XIA

14:20 Measuring discrete outflow enhancement
N. LOEWEN, R. Loewen, H. Parikh, G. Scott, Y. Dang, P. Roy, J. Schuman, A. Jensen, I. Bussel, K. Lathrop, E. Brown

14:40 Trabecular meshwork regeneration by stem cells
Y. DU

15:30 – 17:30 Room: Nishiki

GLA7 - Biology of the TM

Moderators: *Hidenobu Tanihara, Ernst R. Tamm*

15:30 Growth factors and their modulation of trabecular meshwork biology
E.R. TAMM

15:54 Steroid-induced alterations in trabecular meshwork
T. FUJIMOTO

16:18 Biological and cytoskeletal interactions of glaucomatous medications in trabecular meshwork
M. HONJO

16:42 The role of extracellular matrices in the anterior chamber angle development
M. INATANI

17:06 Conditional deletion of fibronectin in the trabecular meshwork outflow pathways of the mouse eye
S. EGGERSTORFER, L. Herrnberger, E.R. Tamm

08:00 – 10:00 Room: Natsume

LEN7 - Lens Cytoskeleton

Moderators: *Roy Quinlan, Velia Fowler, Vasantha Rao*

08:00 Directed migration of lens fibre cells - A two-phase model
Y. SUGIYAMA

08:24 Requirement of aquaporin-0 and adherens junctions for the integrity of interlocking protrusions and transparency of the lens
W.-K. LO, S. Biswas, L. Brako

08:48 Regulation of caveolar morphology by the F-BAR domain protein PACSIN2/Syndapin II
S. SUETSUGU

09:12 Defect of mitotic vimentin phosphorylation causes microophthalmia and cataract via aneuploidy and senescence in lens epithelial cells
H. GOTO, M. Inagaki

09:36 The lens actin filament cytoskeleton: Diverse structures for complex functions
V. FOWLER, C. Cheng, R. Nowak

09:48 Tropomodulin 1 regulation of actin is required for the formation of large paddle protrusions between mature lens fiber cells
C. CHENG, R. Nowak, S. Biswas, W.-K. Lo, P. FitzGerald, V. Fowler

Lens

Wednesday, September 28

13:00 – 15:00 Room: Mizuki

LEN8 - Post-translational modification of crystallins

Moderators: *Kirsten Lampi, Noriko Fujii*

13:00 Deamidation, isomerization, and racemization in lens beta/gamma-crystallins from aged, cataractous lenses
K. LAMPI, L. David

13:24 Deamidation of alpha- and gamma-crystallins: Its effects on structure and interactions
J. CARVER

13:48 Age-dependent isomerization and racemization at specific aspartyl residues in lens crystallins: Analysis and biological relevance
N. FUJII, T. Takata, H. Sakaue, H. Sasaki

14:12 Age-related abnormal Asp isomers distribution in lens specific αA-crystallin monomeric and polymeric state
T. TAKATA, T. Sato, H. Sasaki, N. Fujii

14:36 Role of deamidated γ-crystallin proteins in cataract formation
D.C. THORN, S. Watkin, San J. Juan, A.B. Grosas, N.J. Ray, J.A. Carver

15:30 – 17:30 Room: Hana B

LEN9 - PCO/EMT

Moderators: *Michael Wormstone, Frank Lovicu*

15:30 Regulation of autophagy in Cyclosporine-A treated lens epithelial cells
H. CHANDLER

15:54 Epigenetic mechanisms regulating cell reprogramming associated with the lens fibrotic disease PCO
J. WALKER, B. Bleaken, A.S. Menko, S. Petruk, A. Mazo

16:18 Tropomyosin: Its relationship with age-related-cataract and posterior capsular opacification
E. KUBO, T. Shibata, S. Shibata, N. Shibata, H. Sasaki, E. Kiyokawa, M. Ikawa, D. Singh

16:42 Matrix Metalloproteinase 9 (MMP9) regulates cytoskeletal dynamics during epithelial to mesenchymal transition (EMT) in lens epithelium
A. TAIYAB, J. West-Mays

17:06 A role for Nox4 in mediating TGFß-induced EMT leading to cataractogenesis
S. DAS, E. Collinson, K. Jandeleit-Dahm, H. Schmidt, F. Lovicu

Cornea and Ocular Surface

08:00 – 10:00 Room: Nishiki

COS7 - New diagnosis and therapies for corneal diseases

Moderators: *Rajiv Mohan, Shigeru Kinoshita*

08:00 Nanomedicine for corneal disorders
R. MOHAN, S. Gupta, S. Raikwar, E. Giuliano, P. Sinha, M. Fink, L. Leishman

08:24 Scientific evidence on cultured human corneal endothelial cell-injection therapy
S. KINOSHITA

08:48 Holistic approach to Keratoconus diagnosis and treatment
R. SHETTY

09:12 New insight into the diagnosis of limbal stem cell deficiency
S. DENG

09:36 MicroRNA-184 downregulation promotes corneal epithelial wound healing
P. SOL REINACH

13:00 – 15:00 Room: Hana C

COS8 - Ocular surface epithelial homeostasis (conjunctival, limbal, corneal)

Moderators: *Che John Connon, Kohji Nishida*

13:00 The limbal border: A stem cell niche that generates moving corneal epithelia
N. DI GIROLAMO

13:24 Developing a conjunctival epithelial replacement therapy
R. STEWART, S. Kasbekar, A. Makuloluwa, S. Kaye, R. Williams

13:48 Development of stem cell-based therapy for corneal diseases-from tissue stem cell to iPS cell
K. NISHIDA

14:12 The mechanical properties of the human corneal limbus and their influence on epithelial stem cell phenotype
R. GOUVEIA, G. Lepert, C. Paterson, C. Connon

14:36 Glial-like functions of the corneal epithelial cells maintain the subbasal nerves
M.A. STEPP

15:30 – 17:30 Room: Hana A

COS10 - Dry eye

Moderators: *Kazuo Tsubota, Zuguo Liu*

15:30 Comparison of two mucin secretagogues for the treatment of dry eye: Diquafosol tetrasodium and Rebamipide
Y. HORI

15:54 Mechanism of visual disturbance in dry eye
S. KOH

16:18 Neuropathic pain: A missing piece of the dry eye puzzle
E. FELIX, A. Galor

16:42 Microbiome-oriented supplements for the treatment of dry eye
M. KAWASHIMA, S. Inoue, Y. Izuta, S. Nakamura, K. Tsubota

17:06 Glutathione plays a novel and critical role in ocular surface development
V. VASILIOU, S. Singh, D. Orlicky, D. Thompson, K. Scehy, Y. Chen

13:00 – 15:00 Room: Hana D

IMA5 - Imaging in glaucoma and myopia

Moderators: *Susana Marcos, Leopold Schmetterer*

13:00 Imaging the structures of the optic nerve head
I.A. SIGAL, T. Huong, B. Wang, A. Judisch, N.J. Jan, D. Hu, H. Ishikawa, E. Tyler-Kabara, J.S. Schuman, M. Smith, G. Wollstein

13:24 Jones-Matrix OCT for myopic posterior diseases
Y. IKUNO

13:48 Glaucoma neuroimaging in humans and experimental animal models
K. CHAN

14:12 Anterior segment imaging for glaucoma evaluation
C. LEUNG

14:36 Clinical application of measurement of structure and function in glaucoma
G. WOLLSTEIN

Ocular Imaging

Wednesday, September 28

RPE Choroid Biology and Pathology

08:00 – 10:00 Room: Hana B

RPE7 - Metabolic coupling in the outer retina

Moderators: *Kathleen Boesze-Battaglia, Muayyad Al-Ubaidi*

08:00 Metabolic fate of the RPE's daily meal of photoreceptor outer segment lipids
K. BOESZE-BATTAGLIA, J. Reyes-Reveles, A. Dhingra, D. Alexander, L. Daniele, N. Philp

08:24 Reverse TCA cycle flux through isocitrate dehydrogenases 2 is dominant in retinal pigment epithelium and confers protection from oxidative stress
J. DU, A. Yanagidab, K. Knight, J. Hurley, J. Chao

08:48 ATP6AP2/(pro)renin receptor contributes to glucose metabolism via stabilizing the pyruvate dehydrogenase E1 ß subunit
S. ISHIDA

09:12 Metabolic coupling between Müller cells and photoreceptors: the consequences of genetically disrupting energy metabolism in Müller cells
W. SHEN, J. Du, M. Yam, S.-R. Lee, L. Zhu, J.B. Hurley, M.C. Gillies

09:36 Retbindin, a novel retina-specific protein with a role in metabolic homeostasis
M. AL-UBAIDI, S. Tirthankar, A. Genc, J. Du, J. Hurley, M. Naash

15:30 – 17:30 Room: Mizuki

RPE9 - Inflammasomes in the RPE

Moderator: *Anu Kauppinen*

15:30 The NLRP3 inflammasome and RPE homeostasis
M. CAMPBELL, L. Celkova, N. Hudson, S. Doyle

15:54 Inflammasome activation: Evidence in an animal model of AMD
J. MATSUBARA, J. Gao

16:18 Inflammasomes in the RPE
N. KERUR, Y. Kim, S. Fukuda, D. Banerjee, R. Yasuma, A. Bastos-Carvalho, B.D. Gelfand, J. Ambati

16:42 Mitochondrial damage and inflammasome signaling in the RPE
A. KAUPPINEN, N. Piippo, E. Korhonen, M. Hytti, K. Kaarniranta

17:06 Gene therapy with the Caspase Activation and Recruitment Domain (CARD) slows the retina degeneration of the Sod2 knock-out mouse model of geographic atrophy
C. ILDEFONSO, M. Biswal, K. Jones, R. Iwata, C. Ahmed, Q. Li, A. Lewin

Retinal Cell Biology

08:00 – 10:00 Room: Hana A

RCB6 - Oxidative and ER stress in retinal degenerations

Moderators: *Steven Fliesler, Sarah X. Zhang*

08:00 Endoplasmic reticulum stress in Achromatopsia
J. LIN

08:24 Oxidative stress studies using the NaIO3 model of retinal degeneration
V. BONILHA, B. Bell, M. Rayborn, J. Hollyfield

08:48 Targeting oxidative stress in the retina using gene and drug therapies
A. LEWIN, C. Ildefonso, M. Biswal, C. Ahmed, H. Li, P. Han

09:12 Inhibition of oxidative and ER stress by the mitochondrial-derived peptide humanin
D. HINTON, R. Kannan

09:36 Manipulating ER chaperones and the UPR for retinal neuroprotection
S.X. ZHANG

13:00 – 15:00 Room: Katsura

RCB5 - Assembly and maintenance of the phototransduction organelle

Moderator: *Joseph C. Besharse*

13:00 Microtubule organization and the early development of photoreceptors outer segments
J. BESHARSE, T. Lewis

13:24 New insights in the rod outer segment morphogenesis
V. ARSHAVSKY, J.-D. Ding, R. Salinas

13:48 Mechanisms of daily renewal of rod outer segment discs
T. BURGOYNE, I. Meschede, M. Bailly, M. Seabra, C. Futter

14:12 Three-dimensional organization of photoreceptor nascent disk membranes
S. VOLLAND, L.C. Hughes, K.A. Linberg, G. Luna, S.K. Fisher, D.S. Williams

14:36 New approaches to rod structure and disease mechanisms
T. WENSEL

15:30 – 17:30 Room: Ohgi

JNT4 (RCB+RPE) - Understanding diabetic retinopathy and AMD through animal models

Moderators: *Sayon Roy, Debasish Sinha*

15:30 Three dimensional retinal cultures for evaluation of neuronal cell death and regeneration
T. OSHITARI

15:54 Characterization and whole genome analysis of cynomolgus monkeys with hereditary macular drusen
A. SUGA, M. Nakayama, Z.-L. Chi, N. Shimozawa, K. Yoshitake, T. Iwata

16:18 Retinal pathology in a novel primate model of diabetic retinopathy
A.-F. LI, S. Roy

16:42 Restoration of lysosomal function in animals models of age-related macular degeneration
M. VALAPALA

17:06 mTORC1 AMD: Insights from a genetically engineered mouse model
D. SINHA, P. Shang, M. Valapala, S. Ghosh, S. Hose, J.S. Zigler Jr, G.-T. Xu

Wednesday, September 28

Retinal Neuroscience and Development

08:00 – 10:00 Room: Hana C

RND5 - Retinal circuitry and visual signal processing

Moderators: *Wei Li, Samer Hattar*

08:00 Synaptic connections of S-cones in a mammalian retina
W. LI, Y. Zhang, H. Qian, J. Ball, S. Chen

08:24 Rapid versus sustained contribution of retinal photoreceptors to non-image forming visual functions
S. HATTAR

08:48 Synaptic mechanism for tonic inhibition of ON alpha ganglion cells in the mouse retina
J. DEMB, S. Park, J.-B. Ke, J. Pottackal, N.Y. Jun, I.-J. Kim, J. Singer

09:12 Cellular and synaptic mechanisms underlying direction selectivity in the retina
W. WEI

09:36 Inhibition within the Starburst Amacrine Cell (SAC) network localizes SAC dendritic signaling and sharpens direction selectivity
J. DIAMOND, H. Ding

13:00 – 15:00 Room: Natsume

RND7 - Retinal regeneration through controlled dedifferentiation

Moderators: *David Hyde*

13:00 Epigenetic signatures of chick RPE reprogramming
K. DEL RIO-TSONIS, A. Luz-Madrigal, E. Grajales-Esquivel, A. McCorkle, L. Stetzel

13:24 Innate immune system regulation of retinal regeneration – Enhanced photoreceptor replacement kinetics following delayed immune suppression
J. MUMM, D. White, S. Sengupta, M. Saxena, Q. Xu, J. Hanes

13:48 Factors that regulate Müller GLIA reprogramming and proliferation in the light-damaged Zebrafish retina
D. HYDE, R. Gorsuch, J. Hobgood, J. Li, D. Platt

14:12 RB and Hippo pathway signaling: Not what you'd expect
R. BREMNER

14:36 Genomic mechanisms of Lhx2-dependent control of reactive gliosis in retina
S. BLACKSHAW

15:30 – 17:30 Room: Natsume

RND9 - Modeling human retinal disease

Moderators: *David Cobrinik, Takeshi Iwata*

15:30 Exploring the retinoblastoma origin with fetal, mouse, and hPSC-derived retina models
D. COBRINIK, D. Shayler, H. Singh, S. Lee

15:54 The use of induced pluripotent stem cells to reveal pathogenic gene mutations and explore treatments for retinitis pigmentosa
Y. OZAWA

16:18 Development of 3D-retina cell models for understanding retinitis pigmentosa pathomechanisms
O. GOUREAU

16:42 Generation and analysis of induced photoreceptor-like cells from fibroblasts of patients with retinitis pigmentosa
Y. SEKO

17:06 Normal tension glaucoma by Optineurin E50K mutation: Disease mechanism and therapeutic
T. IWATA, Y. Minegishi, M. Nakayama, D. Iejima

08:00 – 10:00 Room: Katsura

OPT13 - Gene delivery to the eye

Moderators: *Cheryl L. Rowe-Rendleman, Joan O'Brien*

08:00 Nanoconjugate gene therapy of human diabetic limbal epithelial progenitor cells
A. LJUBIMOV, P. Gangalum, H. Ding, J. Ljubimova, A. Kramerov

08:24 Investigational gene therapy for RPE65-mediated inherited retinal disease
D. CHUNG

08:48 Progress on the Primary Open-Angle African American Glaucoma Genetics (POAAGG) Study
J. O'BRIEN, D. Collins, H. Gudiseva, J. He, N. Khachatryan, R. Salowe, L. O'Keefe, R. Lee, M. Ramakrishnan, W. Merritt, M. Pistilli, W. Murphy, J. Henderer, V.R.M. Chavali, M. Maguire, G.-S. Ying, A. Lehman, V. Addis, E. Miller-Ellis, P. Sankar

09:12 Long term results of the retinal gene therapy in LCA2 patients: A picture painted by the brain
M. ASHTARI, L. Cyckowski, E. Nikonova, G. Young, M. Mahmoudian, K. Marshall, J. Sun, K. Shindler, A. Maguire, J. Bennett

09:36 Gene therapy of the corneal endothelium
T. A. FUCHSLUGER

13:00 – 15:00 Room: Ohgi

OPT6 - Matching clinical needs and novel drug delivery systems for the posterior segment of the eye

Moderators: *Rocio Herrero-Vanrell, Ken-ichi Hosoya*

13:00 Intraocular pharmacokinetic modelling and drug delivery
A. URTTI

13:20 Materials inspired by the challenges in ophthalmic drug delivery
G. MIHOV, M. Natu-Tavares, I. Minten

13:40 The role of blood-retinal barrier transporters in retinal drug delivery
K.-I. HOSOYA, S.-I. Akanuma, Y. Kubo

14:00 Stimuli-responsive drug delivery technologies for the back of the eye
I.D. RUPENTHAL, M.N. Yasin, R. Bisht, Y.-S. Chen, D. Svirskis

14:20 Protein nano-assemblies for improved intraocular delivery
U. KOMPELLA

14:40 Novel biodegradable oil/protein microspheres for the treatment of posterior segment diseases
R. HERRERO-VANRELL, I. Bravo-Osuna, C. Garcia-Caballero, A. Arranz-Romera, S. Esteban-Pérez, I.T. Molina-Martinez

Ocular Pharmacology and Therapeutics

Wednesday, September 28

15:30 – 17:30 Room: Hana C

JNT9 (OPT+GLA) - Therapeutic targets for retinal disease: Lessons learnt from bench side

Moderators: *Renu Kowluru, John Penn*

15:30 Retinal vascular inflammation in diabetic retinopathy
J. PENN, G. McCollum, M. Capozzi, M. Giblin, S. Evans

15:54 The Ureohydrolase Arginase as a novel therapeutic target for retinopathy
R.B. CALDWELL, P. Narayanan, R.W. Caldwell

16:18 Is Tiam1-Rac1 axis a legit therapeutic target for preventing retinal dysfunction in diabetes?: An outsider's perspective
A. KOWLURU

16:42 Chronic retinal inflammation in diabetic retinopathy
S. MOHR, D. Feenstra

17:06 Retinal response ischemic injury: Role of histone deacetylase and sphingolipids
C. CROSSON

15:30 – 17:30 Room: Katsura

OPT10 - TBI (traumatic brain injury): Visual dysfunction and treatment

Moderators: *P. Michael Iuvone, Thomas A Fuchsluger*

15:30 Visual aspects of TBI
R. BLANCH

15:54 Mechanisms and therapy in air blast induced eye trauma
T. REX, C. Bricker-Anthony, B. Lunn, L. D'Surney, M. Jo, A. Bernardo-Colon

16:18 HIOC, a TrkB receptor activator, for the treatment of blast-induced vision loss
P.M. IUVONE, S. Dhakal, P. Lyuboslavsky, L. He, F.L. Struebing, J.H. Boatright, E.E. Geisert

16:42 Activation of the innate immune system following blast injury to the eye
E. GEISERT, F. Struebing, Y. Li, R. King, P.M. Iuvone

Ophthalmic Genomics

08:00 – 10:00 Room: Hana D

OGM7 - Genetics of corneal dystrophies

Moderators: *Sudha Iyengar, Anthony Aldave*

08:00 Mutations in COL17A1 cause ERED in the Swedish population
I. GOLOVLEVA, F. Jonsson, A. Davidson, L. Backman, T. Kellgren, S. Tuft, T. Koskela, P. Rydén, O. Sandgren, P. Danielsson, A. Hardcastle, B. Byström

08:24 Elucidating the genetic basis of posterior polymorphous corneal dystrophy
A. ALDAVE

08:48 Genomewide association analysis identifies novel genetic loci for Fuchs endothelial corneal dystrophy
S. IYENGAR, Jr. R.P. Igo, Y.-J. Li, N. Afshari, for the FECD Genetics Study Group

09:12 The use of CRISPR-Cas9 to treat corneal dystrophy
T. MOORE

15:30 – 17:30 Room: Hana D

OGM4 - Epigenetic modifications and non-coding RNAs in the ocular health and disease

Moderators: *Julia V. Busik, Alexander Ljubimov*

15:30 Is there a role of epigenetics in diabetic retinopathy?
R. KOWLURU

15:54 DNA methylation profiles of normal and diabetic iPS cells
A. LJUBIMOV

16:18 Diabetic retinopathy: The microRNA connection
S. CHAKRABARTI, A. Thomas, A. Gordon, B. Feng

16:42 Dual anti-inflammatory and anti-angiogenic role of miR-15a in the retina
J. BUSIK, Q. Wang, F.L. Powell, P.M. Martin, M. Grant

17:06 The role of microRNAs in normal and diseased corneal epithelial homeostasis
M. SAGHIZADEH, M. Kulkarni, G. Wei, J. Tang, V. Punj, V. Funari, A. Ljubimov

08:00 – 10:00 Room: Mizuki

IND4 - Cell-signaling in anterior segment development and dieases

Moderators: *Lixing W. Reneker, Chia-Yang Liu*

Independent Session

08:00 Programmed Cell Death (PCD) in anterior segment morphogenesis and diseases
L. RENEKER

08:24 Shp2 is indispensable for corneal innervation and epithelial stratification in mice
C.-Y. LIU, Y. Zhang, L.-K. Yeh, W.W. Kao-Y.

08:48 TRP channel receptors and signal transduction in corneal wound healing
Y. OKADA, P. Reinach, K. Shirai, M. Miyajima, O. Yamanaka, T. Sumioka, S. Saika

09:12 Chemokine signaling is required for proper neuropatterning during ocular development
P. LWIGALE, A. Ojeda

09:36 Regulation of ciliary body morphogenesis and secretion: Notch, BMP, adhesion and beyond
T. XIE, Y. Zhou, C. Tanzie

13:00 – 15:00 Room: Hana B

IND3 - Oxidative stress in ocular tissue

Moderators: *Iok-Hou Pang, Jiyang Cai*

13:00 ATF-4 links ER stress to the oxidative stress in glaucoma
R. KASETTI, G. Zode

13:24 Choroidal gamma delta T cells and sodium iodate-induced oxidative injury
J. CAI, Z. Zhao, Y. Chen

13:48 Glutaredoxin 2 (Grx2) protects retinal pigment epithelial cells from oxidative damage by regulating autophagy
C. XAVIER, X. Liu, H. Wu

14:12 In vivo chemiluminescence detection of reactive oxygen species in the mouse retina
N. FAN, S.M. Silverman, Y. Liu, X. Wang, B.-J. Kim, L. Tang, A.F. Clark, X. Liu, I.-H. Pang

Wednesday, September 28

13:00 – 15:00 Room: Nishiki

IND6 - Autophagy in eye health and disorders

Moderator: *Debasish Sinha*

13:00 Insights into membrane dynamics of autophagy and its implications in diseases
T. YOSHIMORI

13:24 Autophagy in the retina, development, degeneration and ageing
P. BOYA

13:48 Live imaging and molecular dissection of organelle degradation in the lens
N. MIZUSHIMA, H. Morishita

14:12 The dual protective role of p62 in the RPE with aging and AMD
J. HANDA, L. Wang, S. Datta, M. Cano

14:36 Effect of Optineurin on retinal ganglion cell transmitophagy at the optic nerve head
N. MARSH-ARMSTRONG, C.-H. Davis

10:30 – 11:45 Room: Concord AB

Plenary Lecture & The Ludwig von Sallmann Prize

The Ludwig von Sallmann Prize is awarded to Rosalie K. Crouch, PhD.
Dr. Crouch will be introduced by Dr. Steven J. Fliesler.

08:00 – 10:00 Room: Hana C

GLA8 - Distal outflow resistance: Towards understanding MIGS

Moderators: *Darryl R. Overby, Arthur Sit*

08:00 Intrascleral veins require deep thoughts beyond superficial episcleral veins
S. MOROI

08:24 Measurement and physiology of episcleral venous pressure
A. SIT

08:48 Role of Schlemm´s canal and collector channels in intraocular pressure (IOP) regulation
M. FAUTSCH, C. Hann

09:12 Anatomy of smooth muscle cells in distal vessels
J. TAN, J. Gonzalez Jr., M. Ko, A. Masedunskas, Y.-K. Hong, R. Weigert

09:36 Aqueous angiography and minimally invasive glaucoma surgeries
A. HUANG

13:00 – 15:00 Room: Hana C

GLA10 - Lymphangiogenesis, lymphatics and IOP regulation

Moderators: *Ganesh Prasanna, Dan Stamer*

13:00 Paradoxical roles of Schlemm´s canal inner wall
W.D. STAMER, D.R. Overby

13:24 Recent advances in ocular lymphatic research and implication in glaucoma
L. CHEN

13:48 The effect of podoplanin Inhibition on lymphangiogenesis under pathological conditions
K. MARUYAMA

14:12 Schlemm´s canal is a unique vessel with a combination of blood vascular and lymphatic phenotypes that forms by a novel developmental process
K. KIZHATIL, M. Ryan, J. Marchant, S. Henrich, S. John

14:36 Discussion: Targeting Schlemm's canal as a glaucoma therapy

Thursday, September 29

15:30 – 17:30 Room: Hana A

GLA9 - Status of glaucoma gene and stem cell therapy

Moderators: *Paul Kaufman, Xuyang Liu*

15:30 Schwalbe's line cells show stem cell characteristics
B. BRAUNGER, B. Ademoglu, B. Gabelt, J. Kiland, E. Hennes-Beann, K. Brunner, P. Kaufman, E. Tamm

15:50 Patient-derived stem cells for IOP control
M. KELLEY, X. Li, S. Huang, J. Staverosky, D. Abu-Hassan, E. Ryan, T. Acott

16:10 Transplantation of iPSC-derived TM cells restores outflow facility in an aged glaucoma mouse model
W. ZHU, O. Gramlich, B. Tucker, M. Kuehn

16:30 Hurdles affecting successful therapeutic transduction of retinal ganglion cells
R. NICKELLS, C. Schlamp, H. Schmitt

16:50 Trabecular meshwork and ciliary muscle gene therapy for glaucoma
P. KAUFMAN

17:10 Exoenzyme C3 transferase lowered IOP in rats
X. LIU, J. Tan, N. Fan, P. Kaufman, N. Wang

Lens

08:00 – 10:00 Room: Mizuki

LEN10 - The Zonule of Zinn: Biology and pathology

Moderators: *Tomoyuki Nakamura, Steve Bassnett*

08:00 Functional connection of the key matrix is the intra-capsular zonule for lens accommodation on monkey eye
M. HIRAOKA

08:24 Latent TGFβ binding protein-2 is essential for the stable structure of ciliary zonule microfibrils
T. NAKAMURA

08:48 Molecular Composition of the ciliary zonule and its role in regulating lens size
S. BASSNETT

09:12 Investigating the implications of the long anterior zonule trait
D. ROBERTS

09:36 Cataract surgery in exfoliation syndrome patients: Errors in the prediction of postoperative refraction and postoperative change of intraocular pressure
N. ISHIKAWA

13:00 – 15:00 Room: Ohgi

LEN11 - Alpha crystallins and small heat-shock proteins

Moderators: *John Carver, Heath Ecroyd*

15:30 Small molecule pharmacological chaperones for lens alpha-crystallin
U. ANDLEY, L. Makley, J. Gestwicki

15:54 Good things in small packages: The molecular chaperone action of the small heat shock proteins
H. ECROYD, D. Cox, T. Berg

16:42 Dynamic structure and flexible functions of sHSPs
J. BENESCH

17:06 Investigating the structure of the small heat-shock protein αB-crystallin under conditions of macromolecular crowding
A.B. GROSAS, A. Rekas, J. Mata, H. Ecroyd, D. Hall, J.A. Carver

15:30 – 17:30 Room: Nishiki

LEN12 - Physiological optics

Moderators: *Paul Donaldson, Barbara Pierscionek*

13:00 Salt and water circulation through the lens: A role in controlling optics?
R.T. MATHIAS

13:24 MRI measurements of physiological optics of the lens; Applications to the human eye
E. VAGHEFI, P.J. Donaldson

13:48 Are water channel and cell-to-cell adhesion functions of AQP0 critical for eye lens biomechanics?
K. VARADARAJ, N. Zhang, R. Mathias, S. Kumari

14:12 Age-dependence of the crystalline lens shape and power with stretching force during simulated accommodation
B. MACEO HEILMAN, F. Manns, J.-M. Parel

14:36 Ageing changes in the refractive index of the lens: How the biological lens can inform implant design
B. PIERSCIONEK, M. Hoshino, N. Yagi, M. Bahrami, A. Augousti, J. Regini, K. Ueugi

08:00 – 10:00 Room: Hana B

COS9 - Reimbursement of ocular surface cell based therapies - Bottlenecks in bioprocessing

Moderators: *Kohji Nishida, Julie Daniels*

08:00 Is regenerative medicine affordable for the ocular surface?
J. DANIELS

08:24 Molecular aliasing and biological variance
D. GIBSON

08:48 Ocular surface reconstruction using cultivated epithelial cell sheet – Dawning of a new era
Y. OIE

09:12 Alginate-encapsulation for the storage and therapeutic delivery of adipose-derived stem cells for ocular surface repair
S. SWIOKLO, A. Mirza, H. Dernatra, C. Connon

09:36 Second harmonic imaging of corneal collagen: Insights into corneal evolution and scarless wound healing
E. KOUDOUNA, M. Winkler, A.J. Quantock, P. Lwigale, J.V. Jester

Cornea and Ocular Surface

Thursday, September 29

Ocular Immunology

13:00 – 15:00 Room: Mizuki

IMM4 - Innate mechanisms that contribute to RPE pathology

Moderators: *Aparna Lakkaraju, David S. Williams*

13:00 Defective phagosome transport in the RPE activates complement and induces AMD-like pathogenesis
D.S. WILLIAMS, J. Esteve-Rudd, M. Jiang, R. Hazim, A. Umapathy

13:24 Restoration of organelle trafficking protects the RPE from complement-mediated damage
A. LAKKARAJU, L.X. Tan, K. Toops

13:48 Complement dysregulation in Stargardt macular degeneration
R.A. RADU, J. Hu, G.J. Pauer, S.A. Hagstrom, M.E. Rayborn, J.G. Hollyfield, D. Bok, V.L. Bonilha

14:12 Mitochondrial DNA damage and the CFH genotype
D. FERRINGTON, R. Kapphahn, M. Leary, S. Atilano, R. Ratnapriya, A. Swaroop, S. Montezuma, C. Kenney

14:36 Distinct rpe and retina mitochondrial respiration defects in STGD3 juvenile maculopathy
C.Y. DEJOS, W.Y. Han, S. Kuny, H. Capel, H. Lemieux, Y. Sauve

Ocular Imaging

08:00 – 10:00 Room: Nishiki

IMA6 - AO in vision sciences

Moderators: *Wolfgang Drexler, Christopher Leung*

08:00 Adaptive Optics for vision evaluation
P. ARTAL

08:24 Prospects for two-photon imaging in the living human eye
J. HUNTER

08:48 High-resolution retinal imaging in color blindness
J. CARROLL

09:12 Adaptive optics retinal physiology
A. ROORDA

13:00 – 15:00 Room: Hana D

IMA1 - New advances in ocular imaging - Part II

Moderators: *Yoshiaki Yasuno, Pablo Artal*

13:00 Tear film thickness measured by OCT in sicca patients
L. SCHMETTERER

13:24 3-D OCT ocular biometry
S. MARCOS, E. Martinez-Enriquez, M. Sun, P. Perez-Merino, M. Velasco-Ocana

13:48 Air-puff swept – Source optical coherence tomography
M. WOJTKOWSKI, E. Maczynska, B. Kaluzny, I. Grulkowski

14:12 Towards OCT on chip
W. DREXLER

14:36 Compact AO OCT
D. FERGUSEN

RPE Choroid Biology and Pathology

08:00 – 10:00 Room: Hana D

RPE11 - Aging RPE: Proteostasis mechanisms in health and diseases

Moderator: *Luminita Paraoan*

08:00 Age-related impaired trafficking of the major RPE proteolysis regulator cystatin C
L. PARAOAN

08:24 SQSTM1/p62 a key player in the regulation of proteostasis defence during RPE aging process
K. KAARNIRANTA, J. Paterno, P. Tavi, A.-L. Levonen, H. Tanila, H. Leinonen, A. Koskela, J. Viiri, J. Hyttinen, A. Smedowski, A. Kauppinen

08:48 The role of RPE-expressed sirt1 in the pathogenesis of age-related macular degeneration
T. YOSHIDA

09:12 Mechanism of RPE proteostasis in health and disease using an in vitro "aging" model
R. SHARMA, A. George, Q. Wan, Z. Quershi, J. Chang, D. Patel, S. Miller, K. Bharti

09:36 Alterations in miR-155 levels mediate RPE physiology & pathophysiology
A. MAMINISHKIS, C. Zhang, S. Miller

09:48 Effects of amyloid beta on cultured human retinal pigment epithelial cells
N. MASUDA, H. Tsujinaka, M. Yamashita, T. Yoshikawa, N. Ogata

13:00 – 15:00 Room: Hana B

RPE12 - RPE dysfunction in AMD: From oxidative damage to inflammasome activation

Moderators: *Magali Saint-Geniez, Patricia D'Amore*

13:00 Innate immune Pattern Recognition Receptor (PRR) sensing in retinal degeneration
S. DOYLE, K. Mulfaul, E. Ozaki, E. Connolly, K. Brennan, M. Campbell

13:24 Metabolic control of RPE maturation and dysfunction
M. SAINT-GENIEZ

13:48 Choroid endothelium signals regulate outer retina-blood barrier through modulation of basement membrane assembly
E. RODRIGUEZ-BOULAN, I. Benedicto, G.L. Lehmann, M. Ginsberg, D.J. Nolan, R. Bareja, O. Elemento, A. Perez Bay, N.M. Alam, G.T. Prusky, P. Llanos, S.Y. Rabbany, A. Maminishkis, S.S. Miller, S. Rafii

14:12 Dissecting molecular pathways of HCA2 signaling in normal and aged retinal pigment epithelium
O. FROMAL, F. Lamoke Powell, P. Arjunan, A. Saul, M. Bartoli, P.M. Martin

14:36 A novel inhibitor of 5-Lipoxygenase prevents oxidative stress-induced cell death of retinal pigment epithelium cells
S.P. BECERRA, P. Subramanian, E. Mendez

Thursday, September 29

15:30 – 17:30 Room: Hana C

RPE13 - Lymphatics and fluid movement in the posterior eye: Recent advances and remaining controversies

Moderator: *Tailoi Chan-Ling*

15:30 Non-invasive dynamic tracking of aqueous humour outflow and cerebrospinal fluid drainage
Y. YUCEL, K. Cardinell, X. Zhou, E. Mathieu, N. Gupta

15:54 Evidence of lymphatics and glymphatics in the posterior human eye and retrobulbar optic nerve.
T. CHAN-LING

16:18 Organ characteristics in lymphatic drainage
S. KATO

16:42 Evidence of a Glymphatic clearance pathway in the optic nerve
E. MATHIEU, A. Ahari, X. Zhou, J. Hanna, N. Gupta, Y. Yucel

17:06 Evidence for a glymphatic system in human, primate, rat and mouse retina
P. HU

Retinal Cell Biology

08:00 – 10:00 Room: Katsura

RCB7 - Mouse to human: Modeling AMD

Moderators: *Neena B. Haider, Margaret DeAngelis*

08:00 Novel multigenic genetic mouse model for AMD
N.B. HAIDER, A. Olivares, S. Wu, K. Connor, M. DeAngelis

08:24 The aging transcriptome in health and disease of the retina
M.M. DEANGELIS, M. Morrison, D. Morgan, L. Owen, N.B. Haider

08:48 The elaborated connecting cilium in photoreceptor cell
R. CHEN

09:12 Energy metabolism of photoreceptors drive pathological angiogenesis
J.-S. JOYAL, E. Heckel, Y. Sun, M.L. Gantner, S. Pundir, M. Friedlander, P. Sapieha, C. Clish, L.E.H. Smith

09:36 Cholesterol esterification in photoreceptors: Retinal and clinical significance in mice and humans
I. PIKULEVA, A. Saadane, N. Mast, T. Dao, B. Ahmad

15:30 – 17:30 Room: Hana B

RCB8 - Retinoids in vision

Moderators: *M. John Nickerson, T. Michael Redmond*

15:30 New insights into RPE65's mechanism
T.M. REDMOND, T. Liu, E. Poliakov, S. Gentleman

15:54 Neonatal and developmental visual consequences in the IRBP knockout mouse eye
J. NICKERSON, S. Markand, K. Donaldson, P. Priyadarshani, S. Wetzstein, R. Chakraborty, P.M. Iuvone, M. Pardue, J. Boatright

16:18 Pineal photoreception involving bistable pigments, parapinopsins in lower vertebrates
A. TERAKITA

16:42 The effects of 11-cis retinal and retinal analogues on cone photoreceptor survival
M. KONO

17:06 Seeing (infrared)red
J. CORBO

08:00 – 10:00 Room: Hana A

RND8 - Mechanisms of neuroprotection

Moderators: *Xian-Jie Yang, John Ash*

08:00 The metabolic and redox signaling controlled by the Rod-derived Cone Viability gene NXNL1
T. LÉVEILLARD

08:24 The duality of mTORC1 in promoting cone survival in Retinitis Pigmentosa
C. PUNZO

08:48 Cellular mechanisms of cytokine-mediated neuroprotection in mouse models of retinal degeneration
X.-J. YANG, K.-D. Rhee, Y. Wang, S. Nusinowitz, D. Bok

09:12 An extracellular signaling pathway that includes both leukemia inhibitory factor and Endothelin 2 regulates both neuroprotection and gliosis in the retina
J. ASH, M. Hooper, C. Santiago

09:36 Molecular mechanisms underlying neuroprotective effects of PEDF in retinal degeneration
V. MARIGO, A. Comitato, P. Subramanian, S.P. Becerra

09:48 mTORC2 and GSK3β are inhibitory but mTORC1 is necessary for AKT3-induced optic nerve regeneration
Y. HU, L. Miao, L. Yang, H. Huang, F. Liang, C. Ling

Retinal Neuroscience and Development

Thursday, September 29

13:00 – 15:00 Room: Hana A

JNT5 (RND+RCB) - ES/iPS-based approaches to treating retinal dystrophies

Moderators: *David Gamm, Valeria Canto-Soler*

13:00 Developing an autologous iPS cell derived RPE based cell therapy for macular degeneration
K. BHARTI

13:24 Cultivation, installation and preservation: Development of cellular therapies for age-related macular degeneration
D. CLEGG

13:48 Assessing authenticity of human pluripotent stem cell-derived photoreceptor precursors
D. GAMM, B. Capowski, M.J. Phillips

14:12 Enabling high throughput screening in 3-D retinal organoids for drug discovery
M.V. CANTO-SOLER

14:36 Combining stem cells, genome editing and tissue engineering to rebuild the outer retina
B.A. TUCKER

15:30 – 17:30 Room: Hana D

RND11 - Ca++ signaling in retinal ganglion cells and outer retinal neurons

Moderators: *David Krizaj, Richard Kramer*

15:30 Calcium dynamics and signaling at the mammalian cone photoreceptor synapse
S. DEVRIES

15:54 Regulation of intraterminal Ca2+ at ribbon synapses of rods and cones
W. THORESON, M. Van Hook, J. Grassmeyer, M. Chen

16:18 TRP channels as multimodal modulators of retinal ganglion cell function and survival
D. KRIZAJ

16:42 Re-inventing phototransduction with ion channel photoswitches that restore visual function to blind mice
R. KRAMER

17:06 Synaptic and dendritic signaling in the vGluT3 circuit of the retina
Z.J. ZHOU, S. Lee, M. Chen, Y. Zhang, Y. Jia, M. Chen

Ocular Pharmacology and Therapeutics

08:00 – 10:00 Room: Ohgi

OPT9 - Blue light and circadian system

Moderators: *Gianluca Tosini, Kazuo Tsubota*

08:00 The effect of blue light for ocular health: From retina to the ocular surface
K. TSUBOTA

08:24 Blue light reception in retinal ganglion cells and its role in the clockwork
M. HATORI

08:48 A blue light-photopigment working in the inner retina of vertebrates
M.E. GUIDO, L.P. Morera, N.M. Diaz

09:12 Effects of blue light on the circadian system and eye physiology
G. TOSINI

09:36 Circadian clocks within the retina synchronize to light: Dark cycles using OPN5
E. BUHR, R. Lang, R. Van Gelder

13:00 – 15:00 Room: Nishiki

OPT12 - Imaging biomarkers for retinal diseases

Moderators: *Ash Jayagopal, Mahnaz Shahidi*

13:00 In Vivo imaging of self-quenched indocyanine green-antibody conjugates in retinal disease
A. JAYAGOPAL

13:24 Imaging of retinal vascular and oxygen extraction responses to light flicker in stages of diabetic retinopathy
M. SHAHIDI, A. Felder, J. Wanek, N. Blair

13:48 In Vivo AOSLO imaging of changes in diabetic retinopathy
S.A. BURNS, A. Elsner, B.J. King, K.A. Sapoznik, H. Othman, L. Sawides, T. Gast

14:12 Cone survivability in aging and age-related macular degeneration and the neural economy hypothesis
A. ELSNER, J. Papay, B. King, K. Sapoznik, K. Johnston, L. Sawides, A. DeCastro, D. Jones, T. Gast, S. Burns

14:36 Dendrimer-based systemic therapy and imaging for retinal degeneration
R. KANNAN, S.P. Kambhampati, I. Bhutto, G. Lutty

15:30 – 17:30 Room: Ohgi

OPT15 - Innovative approaches for retinal degeneration and therapy

Moderators: *Nawajes Mandal, Sanjoy Bhattacharya*

15:30 *Glutaredoxin 2* (Grx2) gene knockout mice: A novel model of age-related macular degeneration
H. WU, X. Liu, C. Xavier, Y. Liu, S. Chavala, A. Clark, I.-H. Pang

15:54 Metabolic profiling directed approach for therapeutic development
S. BHATTACHARYA, G. Edwards, N. Ziebarth, R. Lee

16:18 Optic nerve injury-induced phosphoproteomic changes in the retina
Y. LIU, A. Clark, I.-H. Pang

16:42 Novel sphingolipid mediator for retinal ganglion cell death and survival
N. MANDAL, J. Wilkerson, M. Budda, H. Qi, M. Stiles, H. Porter

17:06 Novel therapeutics for age related macular degeneration
R. PATIL

17:18 Adipose stem cell treatment protects against visual deficits of mild traumatic brain injury
R. GANGARAJU

Ophthalmic Genomics

13:00 – 15:00 Room: Katsura

JNT7 (OGM+GLA) - Genetics of normal tension glaucoma

Moderators: *Janey Wiggs, John Fingert*

13:00 Normal tension glaucoma and TANK binding kinase 1 (*TBK1*)
J. FINGERT, T. Sharma, A. Deluca, A. Robin, E. Stone, T. Scheetz, M. Anderson, B. Tucker

13:24 The role of Cerebrospinal Fluid Pressure (CSFp) in Normal Tension Glaucoma (NTG): Is there a genetic contribution?
R.R. ALLINGHAM, J.L. Wiggs, L.R. Pasquale, M.A. Hauser, Neighborhood Consortium

13:48 Normal-tension glaucoma genome-wide association studies
J.L. WIGGS, A. Khawaja, J. Cooke, N. Bailey, R.R. Allingham, M. Hauser, L.R. Pasquale, J.L. Haines, NEIGHBORHOOD consortium

14:12 Mitochondrial pathogenic mechanism in optineurin E50K mutation-mediated retinal ganglion cell degeneration
W. JU, M.S. Shim, Y. Takihara, K. Kim, T. Iwata, B.Y.J.T. Yue, M. Inatani, R. Weinreb, G. Perkins

14:36 Age-dependent neurodegeneration and abnormal bone with loss of optineurin
H. TSENG

13:00 – 15:00 Room: Natsume

OGM11 - Genetics of myopia

Moderators: *Calvin C. P. Pang, Seyhan Yazar*

13:00 Genome cohort study and association study for axial length and refractive error in Japanese
N. FUSE

13:24 Genetics of myopia endophenotypes
C.-Y. CHENG

14:12 Genetic and environmental influences on myopia: An Australian perspective
S. YAZAR, D.A. Mackey

15:30 – 17:30 Room: Mizuki

OGM6 - An omics perspective on pediatric eye diseases

Moderators: *Subhabrata Chakrabarti, Calvin C. P. Pang*

08:00 Human cone precursor circuitry underlying retinoblastoma initiation
H. SINGH, S. Wang, F. Li, D. Cobrinik

08:24 A functional omics perspective on the retinopathy of prematurity
I. KAUR

08:48 Investigating genetic alterations causal to congenital corneal anesthesia using whole exome sequencing
M. ACHARYA, I. Kaur, M. Ramappa, S. Hameed, S. Das, S. Chaurasia, N. Biswas, S. Bhattacharjee, A. Maitra, S. Chakrabarti

09:12 Understanding the development of anterior segment anomalies from an omics perspective
S. CHAKRABARTI

09:36 Understanding the pathogenesis of developmental eye diseases using animal models
H. KHANNA

15:30 – 17:30 Room: Katsura

OGM12 - Current concept in genetics of hereditary ocular developmental anomalies

Moderator: *Elena Semina, Elfrige De Baere*

15:30 Novel factors in human ocular disease
R.V. JAMIESON

15:54 Non-coding *cis*-acting defects in retinal dystrophies: From locus resequencing to interpretation
E. DE BAERE, M. Bauwens, K. Van Schil, F. Coppieters, H. Verdin, J.L. Gómez-Skarmeta, T. Cherry

16:18 Conserved genetic pathways associated with microphthalmia, anophthalmia and coloboma
E. SEMINA

16:42 Leber's congenital amaurosis by CCT2 compound heterozygous mutation and its phenotypic analysis in zebrafish
Y. MINEGISHI, X.L. Sheng, K. Yoshitake, Y. Sergeev, D. Iejima, N. Nakaya, S. Tomarev, T. Iwata

17:06 Modeling congenital ocular disorders in zebrafish
J. GROSS

Thursday, September 29

Independent Session

08:00 – 10:00 Room: Natsume

IND7 - Plasticity in the visual system

Moderators: *Bryan William Jones, Geoff Lewis*

15:30 Retinal Plasticity in human retinitis pigmentosa and age-related macular degeneration. Implications for vision rescue
B. JONES, R. Pfeiffer, R. Marc

15:54 Anatomical and macromolecular changes in the retina of the nm3342 mouse: A potential model of serous retinal detachment
G. LEWIS, G. Luna, K. Linberg, B. Chang, A. Maminishkis, S. Miller, S. Fisher

16:18 Neurovascular interactions: A target for therapeutic intervention in retinal degeneration
B. SAGDULLAEV

16:42 Remodelling of the inner retina secondary to photoreceptor degeneration
L. NIVISON-SMITH, E. Fletcher, M. Kalloniatis

17:06 Ganglion cell changes during retinal degeneration
E. FLETCHER, U. Greferath, S. Saha, E. Anderson, F. Aplin, R. Delongh, A. Jobling, K. Vessey

15:30 – 17:30 Room: Natsume

IND5 - Meibomian glands and Meibum - From biochemistry to physiology to disease

Moderators: *A. Igor Butovich, V. James Jester*

15:30 Anatomy and physiology of the Meibomian glands
E. KNOP, N. Knop

15:54 Eye on the lipids: Lipids and the eye
I. BUTOVICH

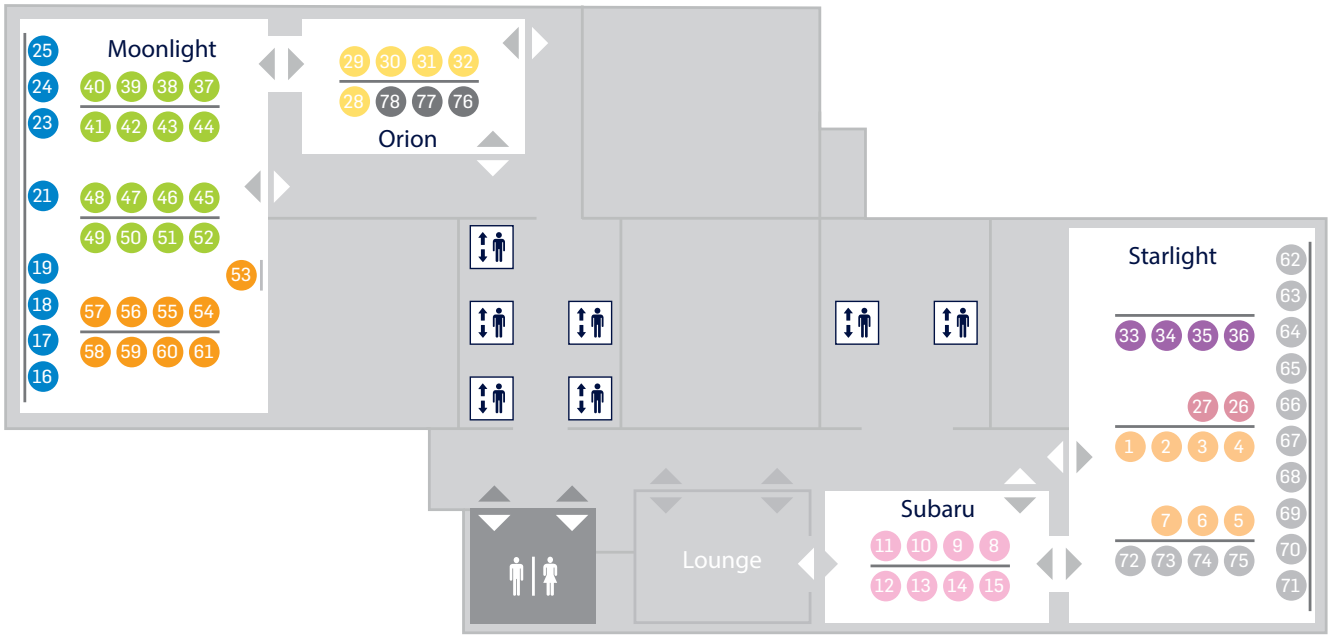
16:18 Characterization of Meibocyte differentiation in human and mouse Meibomian glands
J. JESTER, Y. Xie, G. Parfitt, D. Brown

16:42 The analysis of meibum is the bridge between clinical findings and basic science
R. ARITA

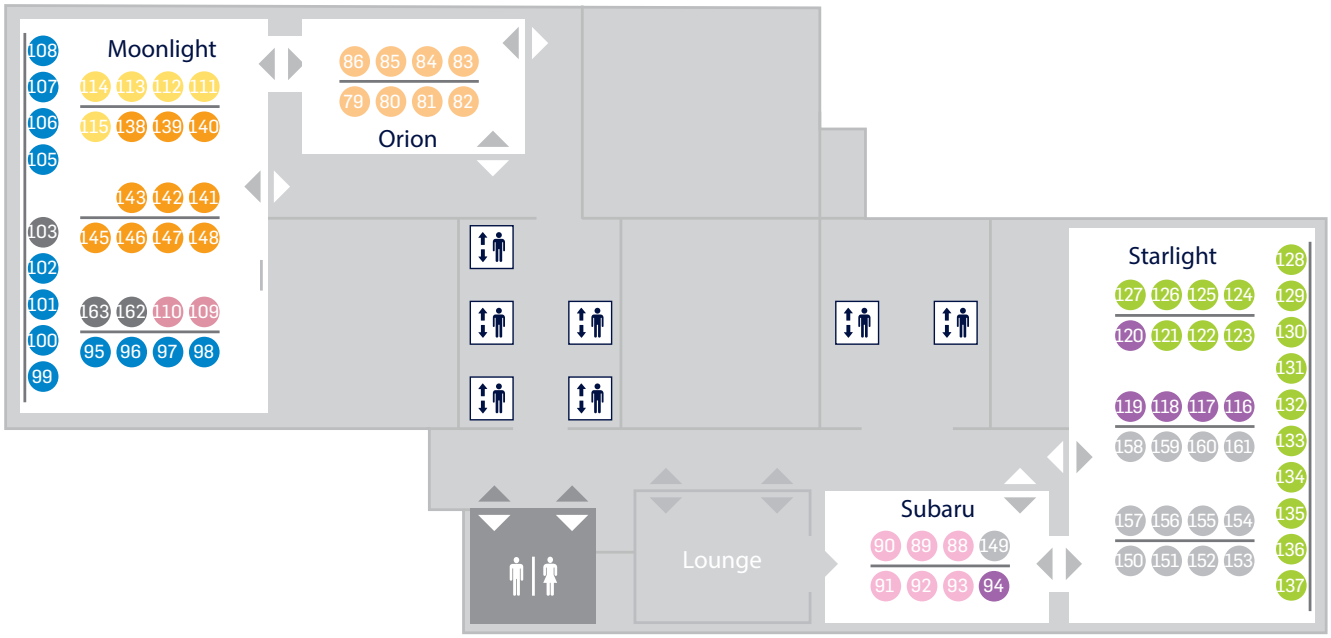
17:06 *Elovl4* products and their relationship to phenotype in humans, mice and zebrafish
R. ANDERSON, B. Hopoavuori, R. Brush, F. Deak, D.M. Sherry, T. Obara, M.-P. Agbaga


POSTERS

Poster Plan | Monday, September 26



Poster Plan | Tuesday, September 27



Glaucoma

Lens

Cornea and Ocular Surface

Ocular Immunology

Ocular Imaging

RPE Choroid Biology and Pathology

Retinal Cell Biology

Retinal Neuroscience and Development

Ocular Pharmacology and Therapeutics

Ophthalmic Genomics

Poster List | Monday, September 26

Poster Viewing 8:00am - 5:30pm | Poster Sessions 5:30pm - 7:00pm

Starlight

GLA - Glaucoma

1 A comparative study of intraocular pressure change in different dosages of topical steroid after Pterygium excision
K. KAMPITAK, W. Suphachearaphan

2 Evaluation of auditory nerve in glaucoma patients
J. AYATOLLAHI, V. Sanati

3 Morphological changes of lateral geniculate bodies and visual cortex in patients with glaucoma and Alzheimer's disease
V. ERICHEV, L. Paniushkina, V. Tumanov, A. Fedorov

4 Comparable retinal ganglion cell loss and microglia response in an autoimmune glaucoma model based on S100 or S100 plus HSP27
S. JOACHIM, S. Reinehr, C. Casola, S. Kuehn, G. Stute, B. Dick

5 Inositol Phosphatase regulation of lipid composition in the cilia of trabecular meshwork
Y. SUN

6 Overexpression of GLAST protects retinal ganglion cells following optic nerve injury
A. KIMURA, K. Namekata, X. Guo, Y. Azuchi, T. Noro, G. Akiyama, C. Harada, T. Harada

7 Blockade of adenosine A2A receptor prevents retinal microglia reactivity and oxidative/nitrosative stress triggered by elevated pressure
A.F. AMBRÓSIO, I.D. Aires, C.R. Neves, R. Boia, A.R. Santiago

Subaru

LEN - Lens

8 Promoter hypermethylation mediated down-regulation of antioxidant genes in high myopic cataractous eyes
X. ZHU, Y. Du, Y. Lu

9 Is near infrared radiation from remote controls and sensing systems induced lens damage cumulative?
Z. YU, K. Schulmeister, N. Talebizadeh, M. Kronschläger, P. Söderberg

10 αB-crystallin: Possible role in signaling and apoptosis in ocular melanoma
G. KONAR, S. Ghosh, J.S. Zigler Jr, D. Sinha

11 Lifespan of mRNA in the lens
M. OKA, K. Umezawa, Y. Nakajima, N. Yosuke, M. Takehana

12 The p110α catalytic subunit of phosphoinositide 3-kinase contributes to normal lens growth
C. SELLITTO, L. Li, E. Vaghefi, P. Donaldson, R. Lin, T. White

13 Tob1 and Tob2 mark distinct RNA processing granules in differentiating lens fibre cells
R. DE IONGH, R. Perez, M. Familari, G. Martinez, F. Lovicu, G. Hime

14 Immunolocation of aquaporin 8 in human lenticular epithelial cells
R. HAYASHI, S. Hayashi, K. Fukuda, M. Sakai, S. Machida

15 Frequency of visit to eye clinics by diabetic patients in the Kumba Urban area, Cameroon
E.N. AYUKOTANG, D.B. Kumah, A.-K. Mohammed

Poster List | Monday, September 26

Cornea and Ocular Surface

Moonlight

COS - Cornea and Ocular Surface

16 Endothelial keratoplasty lenticules prepared from fresh donated whole eyes: Role of microkeratome head and pass time
M. REZAEI KANAVI, F. Nemati, T. Chamani, M.A. Javadi

17 Primary conjunctival malignant melanoma with intra ocular extention - A case report
M. KAMATH

18 Corneal Keratins Aggresome (CKAGG) formation and corneal epithelial cells opacification
F. BARDAG-GORCE, A. Laporte, A. Makalinao, I. Meepe, J. Oliva, S. French, R. Hoft, Y. Niihara

19 Recombinant fibroin containing the RGD motif enhances limbal mesenchymal stromal cell adhesion and proliferation
E. NILI, D. Harkin, N. Richardson, R. Dawson, S. Suzuki

21 The role of mitogen-activated protein kinases pathway in the cellular responses of keratocytes to cyclic stretch
H. TAN, C. Wang, S. Lin, Y. Ma, T. Young

23 Creating an in vitro model of the cornea stroma
J. ZHANG, A.M.G. Sisley, C.N.J. McGhee, D.V. Patel

24 Regulation of cascular endothelial growth factor-C by tumor necrosis factor-α in the conjunctiva and pterygium
S. KASE, Y. Dong, Z. Dong, J. Fukuhara, Y. Tagawa, E. Ishizuka, M. Murata, Y. Shinmei, T. Ohguchi, A. Kanda, K. Noda, S. Ishida

25 A quantification of tear O-glycans by 2-CNA method
Y. TAGAWA, K. Noda, T. Taira, S. Yamaguchi, A. Yamaguchi, Y. Maki, T. Ohguchi, A. Kanda, S. Ishida

Ocular Immunology

Starlight

IMM - Ocular Immunology

26 Disseminated nontuberculous mycobacterial infection with multifocal retinochoroiditis in an immunocompromised patient with anti-IFN-ɣ autoantibodies
T.L. LEE, R. Agrawal, J.Y.-L. Tan, K.H. Ong, C.S. Wong, S.L. Ho

27 Spectrum of ocular inflammatory disease at a tertiary referral eye care institute in Singapore - Report 1
E.J. CHEN, A. Md, H. Mi, S.L. Ho, W.K. Lim, S. Teoh, R. Agrawal

Orion

IMA - Ocular Imaging

28 Choroidal structure determined by binarization of optical coherence tomographic images in children with Anisohypermetropic Amblyopia
T. NISHI, Y. Mizusawa, K. Semba, Y. Mitamura, S. Sonoda, E. Uchino, T. Sakamoto, N. Ogata

29 Evaluation of the Relationship between the macular retinal thickness in amblyopic children and their control
Z. RAJAVI, H. Mughadasifar, N. Behradfar, M. Yaseri

30 Haemodynamics in the retinal vasculature during the progression of diabetic retinopathy
F. CALIVA, G. Leontidis, B. Al-Diri, P. Hopkins, L. Antiga, A. Hunter

31 In vivo molecular imaging of the retinal hypoxia
I. UDDIN, S. Evans, A. Jayagopal, J. Penn

32 A less invasive surgical approach to the superior part of the orbit. A study of the orbital anatomy
D. KROHN-HANSEN, E. Haaskjold, B. Nicolaissen, L. Zhang, T.R. Meling, I. Sjaastad

Ocular Imaging

Starlight

RPE - Choroid Biology and Pathology

33 mir-204/211 in eye development and disease: An intricate relationship
F. NASO, D. Falanga, D. Intartaglia, M. Pizzo, S. Banfi, I. Conte

34 Compromised phagosome maturation underlies defective RPE clearance in an in vitro model of Smith-Lemli-Opitz Syndrome
N. MAS GOMEZ, S. Ramachandra Rao, B.A. Pfeffer, A.M. Rowsam, C.H. Mitchell, S.J. Fliesler

35 Puerarin protects human retinal pigment epithelial cells from all-trans-retinal-induced oxidative and nitrosative stresses
X. ZHU, K. Wang, K. Zhang, F. Zhou, L. Zhu

36 Transplantation of functional RPE derived from bone marrow stromal stem cells coud survive and improve the retinal function
H. ABOUTALEB KADKHODAEIAN, T. Tiraihi, H. Ahmadieh, N. Daftarian, H. Ziaii Ardakani

RPE Choroid Biology and Pathology

Moonlight

RCB - Retinal Cell Biology

37 Metformin suppresses inflammatory responses in vitro and in the vitreous of diabetic retinopathy patients
X. QIAO, Y. Li, S. Gappy, X. Liu, T. Sassalos, P. Edwards, H. Gao

38 Angiogenic role of netrin-4 in the retina
S. CRESPO-GARCIA, N. Kociok, S. Skosyrski, J. Wigdahl, N. Reichhart, C. Roubeix, W.J. Brunken, M. Koch, O. Strauss, A.M. Joussen

39 Galectin-1 Is associated with progression of diabetic retinopathy
A. KANDA, Y. Dong, K. Noda, W. Saito, S. Ishida

40 Preventing pathological pre-retinal neovascularization through modulation of retinal metabolism
L. PARIS, M.L. Ganter, P.D. Westenskow, Y. Usui, M. Friedlander

Retinal Cell Biology

Poster List | Monday, September 26

41 Effects of NDRG1 family proteins on photoreceptor outer segment morphology in zebrafish
S. TAKITA, Y. Wada, S. Kawamura

42 Downregulation of the liver X receptor α/β and Sirt1 signaling axis promotes diabetic retinopathy pathogenesis
S. SUAREZ, T. Lydic, Q. Wang, S. Hazra, M. Levi, G. Malek, M.E. Boulton, M.B. Grant, J.V. Busik

43 Neuroprotective effect of Tetramethylpyrazine on Glutamate-induced cytotoxicity in differentiated Y-79 cells via inhibition of ROS generation and Ca2+ influx
K. WANG, X. Zhu, K. Zhang, F. Zhou, L. Zhu

44 Neuronal RORα regulates neurovascular coupling in retinopathy via Semaphorin 3E
C.-H. LIU, Y. Sun, Z. Wang, S. Burnim, S. Meng, T. Fredrick, N. Saba, P. Morss, J. Chen

45 The Joubert Syndrome Cilia proteins ARL13B and AHI1 differentially modify the severity of retinal degeneration due to loss of CEP290
B. PERKINS, E. Lessieur, G. Nivar, J. Fogerty, F. Syed, P. Song, R. Gaivin

46 High expression of constitutively monomeric Arrestin-1 causes degeneration of rod photoreceptors
E. GUREVICH, S. Vishnevetskiy, K. Thibeault, V. Gurevich

48 The molecular mechanisms leading to alternative splicing of the NXNL1 gene: The origin of the RdCVF metabolic signaling
N. AIT-ALI, T. Leveillard

49 Amelioration of Amyloid β induced retinal inflammatory responses by a LXR agonist TO901317 is associated with inactivation of the NF-κB signaling and NLRP3 inflammasome
B. LEI, C. Lei

50 Over-expression of Angiotensin-converting Enzyme 2 (ACE2) ameliorates Amyloid β-induced inflammation in human retinal pigment epithelium cells
X. FU, R. Lin, Y. Qiu, B. Lei

51 The effect of epoxygenated fatty acids on cytokine-induced inflammation in retinal Müller and endothelial cells
M. CAPOZZI, J. Penn

52 Regulation of astrocyte migration and retinal angiogenesis by cell surface proteoglycans
C. TAO, X. Zhang

Moonlight

RND - Retinal Neuroscience and Development

Retinal Neuroscience and Development

53 Selection of human iPS-derived photoreceptors by targeting of a cell surface antigen
G. GAGLIARDI, S. Reichman, A. Slembrouck, C. Nanteau, O. Goureau

54 Retinal HIF-1α and VEGF levels correlate with ocular circulation measured by the laser Speckle-micro in an oxygen-induced retinopathy rat model
T. MATSUMOTO, Y. Saito, T. Itokawa, T. Shiba, H. Takahashi, Y. Hori

55 From progenitors to neurogenesis: Multiple roles for Semaphorin 3f signaling
R. HALABI, S. McFarlane

56 Cell sycle reentry and DNA damage response of Müller glia after retinal injury
K. NOMURA-KOMOIKE, F. Saitoh, Y. Komoike, H. Fujieda

57 Impaired retinal synaptic transmission in Simvastatin fed mice
A. MOHAMED, S. Samuelson, J. Dimopoulos, M. Sharma, Y. Sauve, I. MacDonald, E. Posse de Chaves

58 Amyloid β 1-42 activates the complement system and induces retinal inflammatory responses and malfunction in mouse
R. LIN, X. Fu, C. Lei, Y. Qiu, B. Lei

59 Biocompatibility of a novel biopolymer scaffold for retinal cell transplantation in the subretinal space of pigs
E. SOHN, K. Worthington, C. Jiao, S. Russell, R. Mullins, E. Stone, B. Tucker

60 Immunohistochemical and transcriptome analyses of the developing human fetal retina
A. HOSHINO, R. Ratnapriya, C. Zhang, R. Wong, A. Swaroop, T. Reh

61 A novel approach for the determination of retinal temperature based on ERG photoresponses
M. PITKANEN, O. Kaikkonen, A. Koskelainen

Starlight

OPT - Ocular Pharmacology and Therapeutics

Ocular Pharmacology and Therapeutics

62 Protection aganist retinal degeneration in the RCS rat by a traditional Chinese medicine, BSYJ formula
L. LIANG, X. Li, Y. Tang, K. Xu, J. Fan

63 Vitrectomy with simultaneous intravitreal Triamcinolone injection versus vitrectomy with simultaneous dexamethasone intravitreal implant for the treatment of diabetic macular edema
K. KANG, S.A. Kim

64 Perfluoro-n-octane toxicity: A sanitary alert
G.K. SRIVASTAVA, M.L. Alonso Alonso, I. Fernandez Bueno, M.T. Garcia-Gutierrez, M. Gayoso, R.M. Coco, J.C. Pastor

65 Clinically compatible human embryonic stem cells-derived retinal pigment epithelium cells grafted as an epithelium potentiates vision rescue in dystrophic rodent
K. BEN M BAREK, W. Habeler, A. Plancheron, M. Jarraya, F. Regent, A. Terray, Y. Yang, L. Chatrousse, S. Domingues, Y. Masson, J.-A. Sahel, M. Peschanski, O. Goureau, C. Monville

Poster List | Monday, September 26

66 Diverse IL-6 signaling in human retinal Müller and endothelial cells under hyperglycemic conditions
B. COUGHLIN, D. Feenstra, S. Mohr

67 Glycyrrhizic acid rescues retinal degeneration induced by blue light-emitting diode exposure in mice
I.-B. KIM, G.H. Kim, S.-S. Paik, H.I. Kim

68 Effects of the choroidal blood flow in eyes with macular edema secondary to branch retinal vein occlusion
M. OKAMOTO, M. Yamashita, N. Ogata

69 Evaluations of eyes with good visual acuity after anti-VEGF therapy for neovascular age-related macular degeneration
M. KOJIMA, T. Yoshikawa, K. Miyata, N. Ogata

70 Lutein/Zeaxanthin Isomers (L/Zi) may enhance exercise by effective utilization of lipids and decrease oxidative stress: In vivo model
V. JUTURU, M.T. Tuzcu, C.O. Orhan, R.P. Pala, N.S. Sahin, O.O. Ozdemi, K. Sahin

71 Neuroprotective and regenerative approach for diabetic retinopathy (in vitro study)
G. BIKBOVA, T. Oshitari, S. Yamamoto

72 Early applications of Granulocyte Colony-stimulating Factor (G-CSF) can stabilize the blood-optic nerve barrier and further ameliorate optic nerve inflammation in a rat model of anterior ischemic optic neuropathy (rAION)
R.-K. TSAI, Y.-T. Wen, C.-H. Chang, S.-P. Huang, T.-L. Huang

73 The Apstatin Analog, ST-115, reduces retinal ganglion cell loss after ischemia/reperfusion injury
S. KAJA, S.-Y. Tsai, A. Rockwell, E. Savarese, V. Rao, G.L. Kartje, W.H. Simmons

74 Animal models for safety and function of IPS cell-derived RPE tissue
V. KHRISTOV, J. Amaral, A. Maminishkis, K. Bharti, S. Miller

75 The effects of Connexin43 mimetic peptide loaded nanoparticles on reducing acute photo-damage of the chorio-retinal complex
M.N. MAT NOR, C.X. Guo, Y.S. Chen, I.D. Rupenthal, C.R. Green, M.L. Acosta

Posters

Ophthalmic Genomics

Orion

OGM - Ophthalmic Genomics

76 Expressions of MyoD, IFG binding protein, Thioredoxin and p27 in overacting inferior oblique muscle
Y.W. CHUNG, J.S. Choi, S.Y. Shin

77 Fine genomic analysis of deletion mutations in the locus control region of OPN1LW/OPN1MW genes in 2 Japanese families with Blue Cone Monochromacy
K. HOSONO, C. Wang, S. Kachi, K. Kurata, K. Suto, M. Nakamura, H. Terasaki, Y. Miyake, Y. Hotta, S. Minoshima

78 Aggregate effects of type 2 diabetes genetic variants on diabetic retinopathy in a multi-ethnic Asian population
Y.H. CHONG, Q. Fan, Y.C. Tham, A. Gan, S.P. Tan, G. Tan, J.J. Wang, P. Mitchell, T.Y. Wong, C.-Y. Cheng

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Orion/Moonlight

GLA - Glaucoma

79 Comparison of iPad based visual field testing with Humphrey SITA in glaucoma
E. GRAHAM, A. Schulz, Y. You, A. Klistorner, S. Graham

80 Aqueous humor microrna as potential biomarkers of outflow function in primary open angle glaucoma: A pilot study
H. JAYARAM, J.I. Phillips, E.C. Johnson, J.C. Morrison, D.M. Gattey, J. Saugstad, K.E. Keller

81 Cofilin-1 mediated neuroprotection after α-synuclein antibody injection in a glaucoma animal model
J. TEISTER, F. Anders, V. Prokosch, S. Funke, N. Pfeiffer, F. Grus

82 Optical and electron microscopic study of Ex-PRESS device blockages of neovascular glaucoma patients
K. SEKIMOTO, Y. Suzuki, H. Murata, K. Shimizu, T. Ezaki, S. Kitano

83 Characterization of Optineurin E50K mouse model with normal tension glaucoma
M. NAKAYAMA, Y. Minegishi, D. Iejima, T. Iwata

84 Pigment epithelium central limit-inner limit of the retina minimal distance integrated over 2Pi (PIMD-2Pi), a promising morphometric variable for follow up of glaucoma derived from 3D-OCT volumes of the optic nerve head
P.G. SÖDERBERG, F.M. Malmberg, C. Sandberg-Melin

85 Mechanical strain regulates transcription, translation and calcium levels in retinal neurons and glia - relevance for disease
S.N. REDMON, M. Lakk, T.T.T. Phuong, A. Jo, D. Krizaj

86 Molecular pathogenesis of early glaucomatous optic neuropathy in a spontaneous feline model
K. OIKAWA, J.N. Ver Hoeve, L.B. Teixeira, J. Kiland, E. Hennes-Beean, C.A. Rasmussen, A. Ikeda, M. Ellinwood, G.J. McLellan

Subaru

LEN - Lens

88 VPS45 mutation induces ectopic lens fiber differentiation in the lens epithelium through the activation of TGF-β signaling
A. HAGIWARA, T. Mochizuki, Y. Kojima, Y. Nishiwaki, I. Masai

90 Analyzing anterior epithelial cell division in whole pig lenses
R. ZOLTOSKI, L. Novak, G. McArdle

91 A conserved RNA binding protein Celf1 regulates lens development through distinct post-transcriptional mechanisms
A. SIDDAM

92 A role for spred proteins in lens development
F. WAZIN, F. Lovicu

93 Zebrafish as a model for studying the effects of ionizing radiation on the eye lens
M. JARRIN, A. Kalligeraki, J. Girkin, R. Quinlan

Poster List | Tuesday, September 27

Cornea and Ocular Surface

Moonlight

COS - Cornea and Ocular Surface

95 Corneal cross-linking in children with progressive Keratoconus: A 5-year follow-up
B.E. FRUEH

96 Evaluation of changes in higher-order aberrations after lamellar keratoplasty in patients with limbal dermoid cyst using swept-source optical coherence tomography
R. TODA, S. Inokawa, T. Chikama, Y. Kiuchi

97 Proteome changes in human tears associated with aqueous-deficient and evaporative Dry Eye Syndrome
F. GRUS, N. Perumal, S. Funke, N. Pfeiffer

98 Topical ozone application augments corneal collagen crosslinking
A.S. DOGAN, C. Gurdal, A. Yesilyurt, S. Calıskan, E. Onder, F. Kaymaz, E. Bilgic

99 Next-generation comprehensive diagnosis of suspect and keratoconus eyes using high resolution tomography and biomechanics: Thinking beyond topography
M. FRANCIS, N. Pahuja, R. Shroff, N. Chinnappaiah, R. Gowda, H. Matalia, E. Remington Nelson, A. Sinha Roy

100 Corneal surface temperature in the guinea pig: Influence of age, tearing and inflammation
M.C. ACOSTA, C. Luna, S. Quirce, C. Belmonte, J. Gallar

101 Towards good manufacturing practice: Comparing the suitability of collagens to produce tissue-equivalents for ocular surface reconstruction
A.R. PINHO, J.T. Daniels

102 Basal tear production and corneal surface temperature in awake and anaesthetized restrained mice
A. ARACIL, M.D.C. Acosta, J. Gallar

105 In vitro effects of Benzalkonium Chloride on human Meibomian gland epithelial cells
U. HAMPEL, A. Gavrilut, M. Eichhorn, F. Paulsen

106 The effect of Proparacaine on the corneal epithelium and neuropeptides
Y.-S. BYUN, J.-Y. Kwon, H.-J. Ju, Y.-S. Yoo, C.-K. Joo

107 Correlations of Fleischer deposits location with topographical parameters within various deformations of cornea
A.S. MISTRYUKOV, S.I. Anisimov, S.Y. Anisimova

108 Scheimpflug evaluation of emetropic, ametropic and excimer laser operated eyes
S. ALIYEVA

Ocular Immunology

Moonlight

IMM - Ocular Immunology

109 Cytokine profiling in patients with age related macular degeneration and polypoidal choroidal vasculopathy
R. AGRAWAL, P.K. Balne, B. Lee, V. Bijin Au, J. Connolly

110 Adenosine A2A receptor blockade prevents microglia-mediated retinal neurodegeneration triggered by elevated hydrostatic pressure
I.D. AIRES, C.R. Neves, R. Boia, A.F. Ambrósio, A.R. Santiago

Moonlight

IMA - Ocular Imaging

111 Cellular cone photoreceptor imaging and OCT angiography in geographic atrophy
J. QIN, N. Rinella, D. Schwartz, M. Deiner, P. Loumou, S. Griffin, K. McDermott, J. Werner, A. Roorda, J. Duncan

112 An automated system that remove outliers from key feature points and from multi-model retinal images registration
J. LIU, J. Cheng, E.P. Ong, D.W.K. Wong, A. Laude, T.H. Lim

113 Autofluorescence in Stargardt disease as predictor for disease progression
N. PALARIE, T. Pasenco

114 Cloud-based automated software for diabetic retinopathy screening and monitoring in a national screening program
D. TING, G. Tan, W. Hsu, M.L. Lee, C. Cheung, T.Y. Wong

115 Optical coherence tomography angiography for detection of carotid artery stenosis: A pilot study
B. FALKENBERG, T. Carrel, S. Wolf, H. Zimmermann, M. Munk, M. Miller, A. Ebneter, M. Zinkernagel

Ocular Imaging

Starlight

RPE - Choroid Biology and Pathology

94 Some Scavenger Receptors Participate in the Elimination of Aged Photoreceptor Outer Segments by RPE Cells through Lipid Raft Membrane Subdomains
E. NANDROT

116 p27 behaves as a regulator of phagocytosis and epithelial-mesenchymal transition in RPE cells after photorecepter damage
N. SUDOU, R. Ul Quraish, K. Nomura-Komoike, H. Fujieda

117 Diurnal processing of NLRP3 inflammasome components in retinal pigment epithelium (RPE)
L. CELKOVA, N. Hudson, S. Doyle, M. Campbell

118 The contribution of insulin-receptor mediated signaling in the RPE to the development of diabetic retinopathy
I. SAMUELS, A. Cutler, M. Tarchick, B. Anand-Apte

119 Human retinal pigment epithelial cell - Extracellular matrix interactions: Relevance to Age-related Macular Degeneration (AMD)
S. EAMEGDOOL, M. Madigan

120 MicroRNA-21 regulates Prorenin Receptor (PRR)-mediated induction of Vascular Endothelial Growth Factor (VEGF) expression in ARPE-19 cells
R. HAQUE, P.M. Iuvone, E.H. Hur, K.S.C. Choi, A. Ngo, D. Park, A.N. Farrell, L. He, M. Aseem, S. Gokhale, B. Kumar

RPE Choroid Biology and Pathology

Poster List | Tuesday, September 27

Retinal Cell Biology

Starlight

RCB - Retinal Cell Biology

121 A novel erythropoietin derived peptide has significant neuroprotective efficacy in diabetic retinopathy
P. CANNING, O. O'Leary, L.-D. Allen, J. Guduric-Fuchs, M. Brines, A. Cerami, A. Stitt

122 Histopathological findings in eyes from patients with Stargardt disease
M. RAYBORN, V. Bonilha, B. Bell, M. Marino, E. Traboulsi, S. Hagstrom, J. Hollyfield

123 Characterization of Müller cells isolated from the central and peripheral human retina
L. ZHU, S. Cherepanoff, M. Madigan, L. Huang, F. Zhou, W. Liu, M. Gillies, W. Shen

124 RCircadian regulation of the inner retinal vasculature: A paradigm for geographic atrophy development
N. HUDSON, L. Celkova, S. Doyle, M. Campbell

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127 The retinal light response altered by ChR2 activation in Müller cells
C. BAKER, J. Tang, J. Flannery

128 Visual restoration effect by ectopic expression of Channelrhodopsin in the murine retina using Tet System
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129 Potential contribution of SIK2 to Müller cell transdifferentiation
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130 Regulatory role of microRNA-184 in diabetic retinopathy
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133 Systematic analysis of the effects of diabetes-relevant stimuli on human retinal cell expression of extracellular matrix constituents
M. GIBLIN, J. Penn

134 Humanin G is protective against mitochondrial DNA-mediated and Amyloid-β-induced cell stress in Age-related Macular Degeneration (AMD) ARPE-19 cybrid cells
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135 Variable cone ERG in a multigenic canine model of cone-rod dystrophy with RPGRIP1 and MAP9 mutations
K. MIYADERA, R. Das, F. Marinho, K. McDaid, S. Iwabe, G. Aguirre

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Retinal Neuroscience and Development

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J. STRINGHAM, N. Stringham

139 The role of brain aromatase in eye development of zebrafish
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140 Macular pigment augmentation promotes light filtering, biochemical, and neuromodulatory effects that improve visual performance
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141 An ER-resident BH3-only protein, BNip1, induces apoptosis in response to excessive vesicular transport during photoreceptor differentiation
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142 Expression of quaking RNA-binding protein in the mouse retina
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147 The mouse model for human peroxisome biogenesis disorders: Characterization and treatment of the associated retinopathy
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Ocular Pharmacology and Therapeutics

Starlight/Subaru

OPT - Ocular Pharmacology and Therapeutics

149 The anti-oxidative effects of natural alkaloids on MIO-M1 and ARPE-19 cells
F. ZHOU, W. Zhou, X. Lu, L. Zhu

150 Increasing the rate of homology directed repair for inherited retinal diseases using the CRISPR/Cas9 system
B. ROSSMILLER, T. Iwata

151 Investigation and characterization of ex-vivo transscleral diffusion of dexamethasone sodium phosphate and triamcinolone acetonide in solution and a dry formulation in rabbit and porcine sclerae
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152 The approach to modify Müller cells - Photoreceptor interactions: The treatment of 670 nm red light prevents activation of microglia in the in vitro model of light damage
Y.-Z. LU, R. Natoli, M. Madigan, K. Valter

153 Vector engineering to improve transgene expression in a non-viral nanoparticle gene therapy
R. ZULLIGER, J. Watson, M. Al-Ubaidi, M. Naash

154 Genome editing and disease modeling of RPGR-associated retinitis pigmentosa
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155 NOX2 blockade prevents diabetes-induced retinal endothelial cell senescence by normalizing arginase expression/activity and restoring no availability
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156 Gene therapy using short hairpin RNAs to slow retinal degeneration in autosomal dominant retinitis pigmentosa
M. MASSENGILL, D. Patel, D. Zakria, W. Hauswirth, A. Lewin

157 The monthly eye drop: Preclinical testing of long-term, hydrogel/microsphere eye drops for glaucoma
M. FEDORCHAK, L. Bruk, I. Conner, J. Schuman, S. Little

158 Caffeine and A2A receptor antagonism control microglia reactivity and afford protection against transient retinal ischemia
R. BOIA, F. Elvas, M.H. Madeira, I.D. Aires, P. Tralhão, Y. Baqi, C.E. Müller, R.A. Cunha, A.F. Ambrósio, A.R. Santiago

159 Targeting thyroid hormone components locally in the retina to protect cone photoreceptors
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160 iPSc-derived pericytes integrate into developing retinal vasculature
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161 High-precision anti-microvascular therapy via the synergy of light and sound
Z. HU, X. Yang, Y. Paulus, X. Wang, H. Zhang, Q. Liu

Moonlight

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R. MEGAW

162 The frequency of alu repetitive elements in angiotensin-converting enzyme in Jordanian diabetic retinopathy patients
D. ABU-HASSAN, M. Bdour, I. Alsaleh, M. El-Khateeb

163 Genomic disruption of VEGF-A expression in human retinal pigment epithelial cells using CRISPR-Cas9 endonuclease
G. YIU, E. Tieu, B. Wong, A. Nguyen, Z. Smit-McBride

Ophthalmic Genomics

Transforming Lives Through Better Vision

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Science For A Better Life

For the more than 150 years since its founding, the Bayer Group has constantly contributed to a Better Life for people around the world by offering a diverse lineup of innovative products and services. Here in Japan, Bayer is best known as the inventor of the iconic pain reliever and fever reducer Aspirin, and has operated in Japan for the more than 100 years since the foundation of its first local subsidiary in 1911.

As an innovation company that leads many research-intensive fields, Bayer is committed in bringing Better Life to people by supplying highly innovative products and services that improve the quality of people's lives based on the spirit of Bayer's corporate mission "Science For A Better Life". At the same time, Bayer will strive to create additional corporate value by producing innovation, achieving further growth, and maintaining strong earning power. We remain committed to achieving sustainable growth as a corporate citizen that takes its social and ethical responsibilities.

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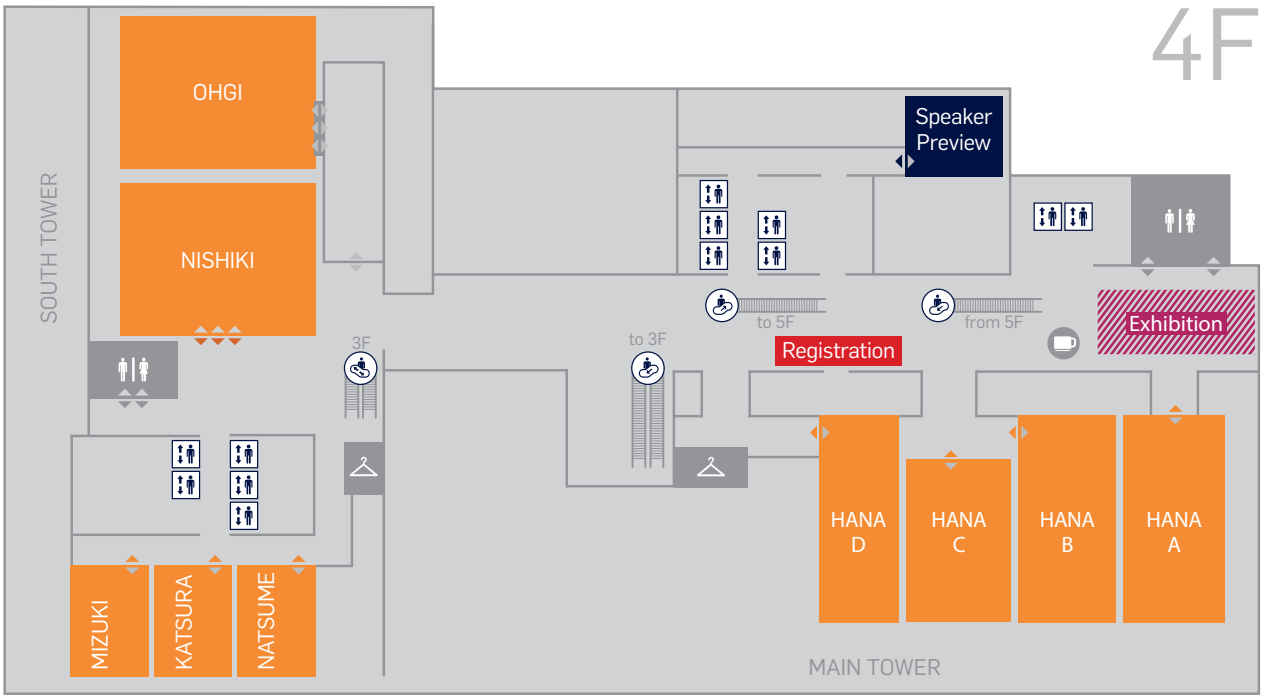
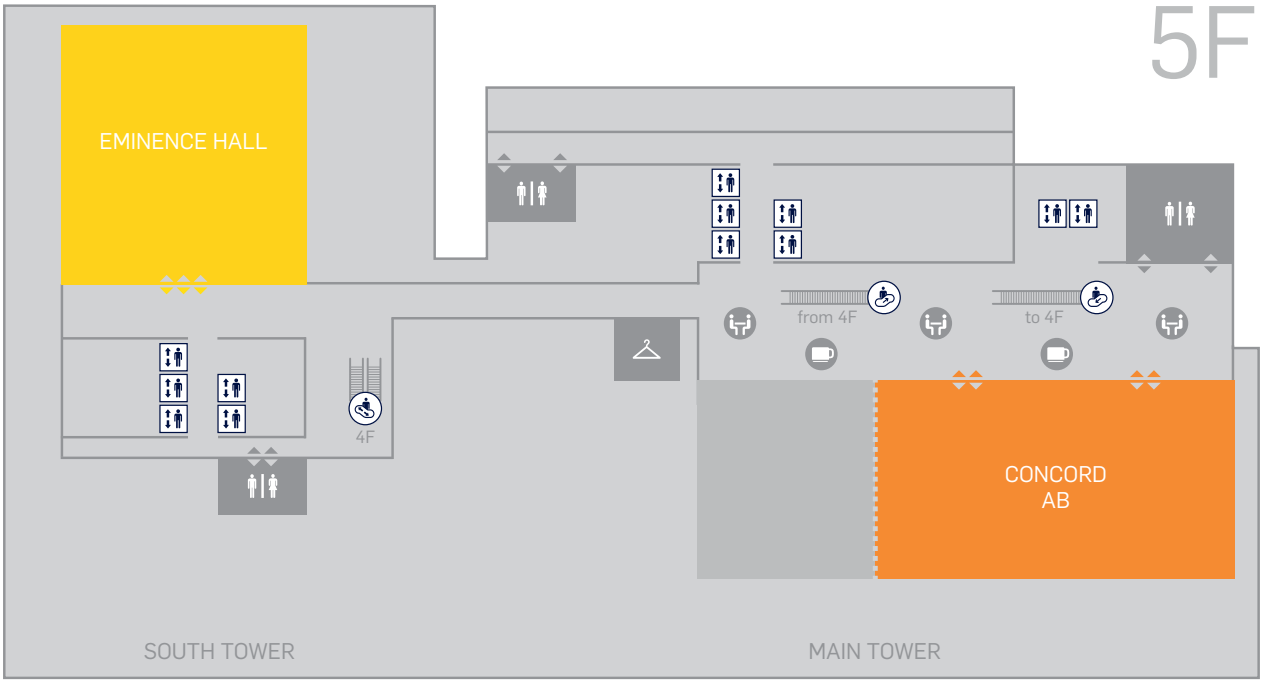
GENERAL
INFORMATION

FLOOR PLANS

Levels 4F and 5F

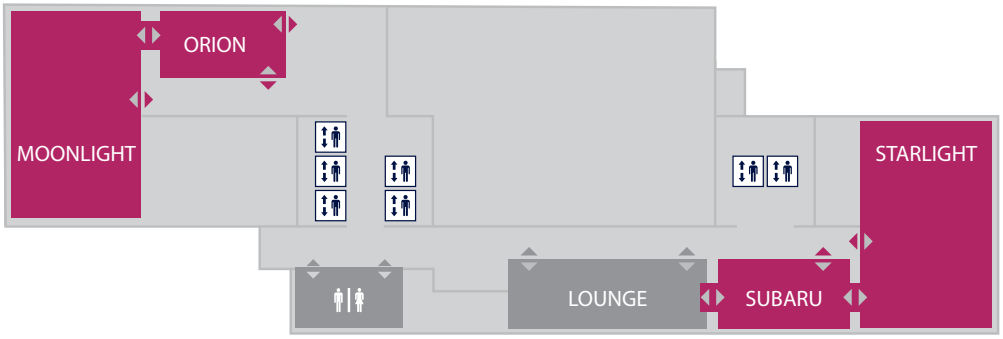




Welcome Reception | Gala Dinner
Session Rooms
Poster Area
Exhibition Area
Speaker Preview Room
Registration Area
Restrooms
Cloakroom
Seating Area
Coffee & Tea

Level 43F

43F

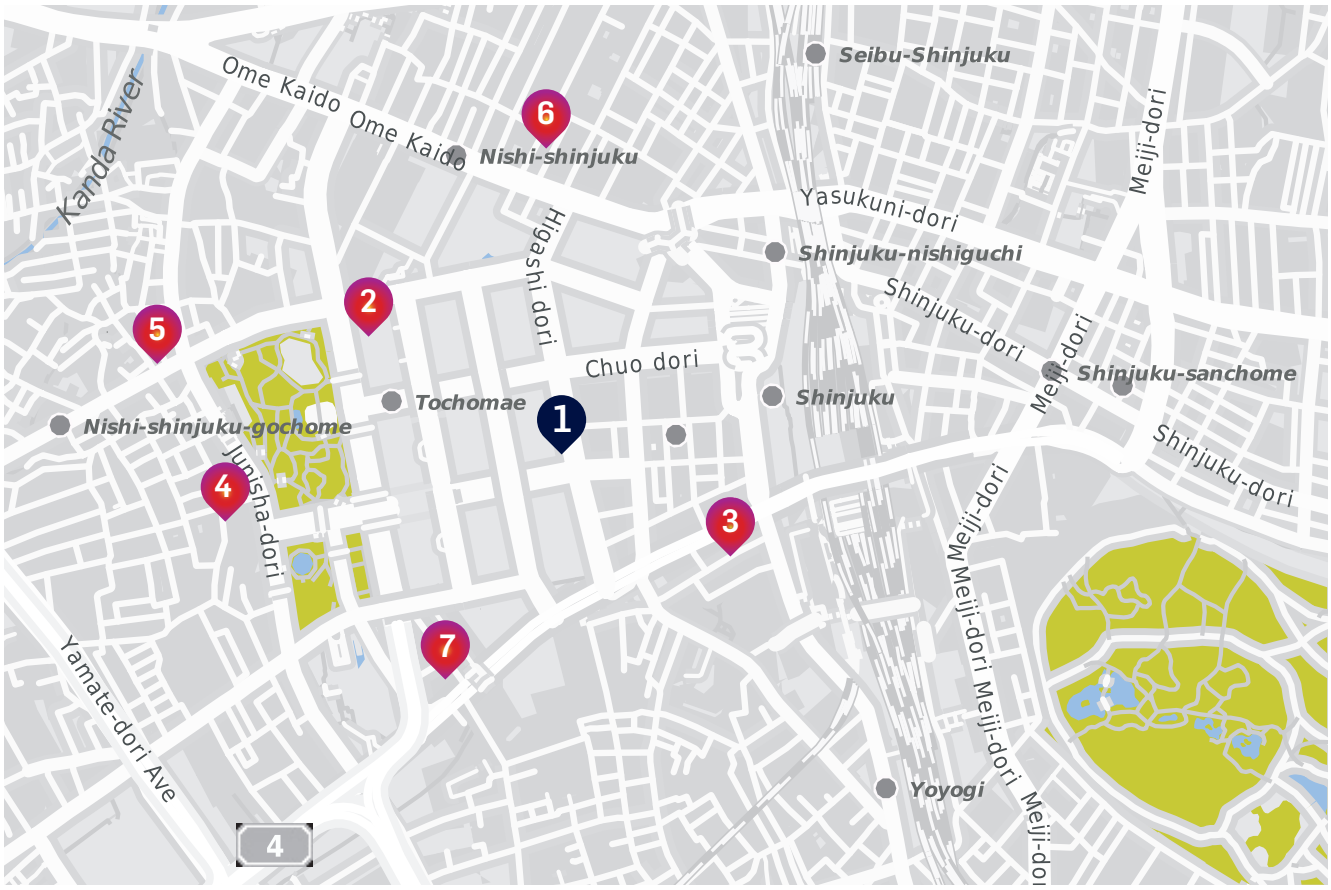


Welcome Reception | Gala Dinner
Session Rooms
Poster Area
Exhibition Area
Speaker Preview Room
Registration Area
Restrooms
Cloakroom
Seating Area
Coffee & Tea

	Registration Counter	Speaker Preview Room	Cloakroom	Poster Area	Exhibition Area
Sunday, September 25	4:00pm - 9:00pm	2:00pm - 8:00pm	4:00pm - 9:30pm		
Monday, September 26	7:30am - 6:00pm	7:30am - 6:00pm	7:00am - 8:00pm	8:00am - 7:00pm	9:00am - 6:00pm
Tuesday, September 27	7:30am - 6:00pm	7:30am - 6:00pm	7:00am - 10:00pm	8:00am - 7:00pm	9:00am - 6:00pm
Wednesday, September 28	7:30am - 5:00pm	7:30am - 5:00pm	7:00am - 6:00pm		9:00am - 6:00pm
Thursday, September 29	7:30am - 5:00pm	7:30am - 4:00pm	7:00am - 6:00pm		9:00am - 4:00pm

HOTEL MAP

ISER 2016 Hotels



Hotel	Address	Check in	Check out	Distance to Meeting venue
1 KEIO PLAZA HOTEL (Meeting Venue)	160-0023 Tōkyō-to, Shinjuku-ku, Nishishinjuku, 2 Chome–2 www.keioplaza.co.jp	14pm	11am	0 km
2 HYATT REGENCY TOKYO	2 Chome-7 Nishishinjuku, Shinjuku-ku, Tōkyō-to 160-0023 www.hyattregencytokyo.com	14pm	11am	400m
3 JR KYUSHU HOTEL BLOSSOM	2 Chome-6-2 Yoyogi, Shibuya-ku, Tōkyō-to 151-0053 www.jrk-hotels.co.jp	14pm	11am	750m
4 SHINJUKU NEW CITY HOTEL	160-0023 Tōkyō-to, Shinjuku-ku, Nishishinjuku, 4 Chome–4–31–1 www.newcityhotel.co.jp	15pm	10am	650m
5 TOKYU STAY NISHI-SHINJUKU	160-0023 Tōkyō-to, Shinjuku-ku, Nishishinjuku, 5 Chome–9 www.tokyustay.co.jp	15pm	11am	900m
6 NISHITETSU INN SHINJUKU	7 Chome-23-2 Nishishinjuku, Shinjuku-ku, Tōkyō-to 160-0023	15pm	10am	650m
7 KEIO PRESSO INN SHINJUKU	3 Chome-4-5 Nishishinjuku, 新宿区 Shinjuku-ku, Tōkyō-to 160-0023 store.lawson.co.jp	15pm	10am	600m

Platinum Sponsor

Knights Templar Eye Foundation, Inc.

The Knights Templar Eye Foundation, Inc., is a 501(C)3 charity, sponsored by the Grand Encampment of Knights Templar and was founded in 1956. Its mission is "to improve vision through research, education and supporting access to care.

The Foundation is a supporter and partner of the American Academy of Ophthalmology (AAO) EyeCare America® and the One® Network program. Over $148 million has been expended since its incorporation with over $24 million in grants for researchers working in pediatric ophthalmology and ophthalmic genetics.

The Foundation is funded by donations from the Knights Templar membership as well as contributions made by Masons from throughout the Masonic Family. These tax-deductible donations go to either general or endowment funds. Many members, as well as non-members, leave bequests as part of their estates supporting the Knights Templar Eye Foundation, Inc. in the preservation of sight.

As the Foundation has grown since its inception, we have expanded the number and size of our grants, and we have commenced new initiatives in ophthalmology research and education. Our research grants are targeted to new researchers in the early stages of their careers.

This year, we were excited to commence funding travel grants for ISER. We believe this is an ideal expansion of our funding concept. By stretching out a helping hand to those starting their careers, we hope to encourage and expedite successful careers advancing the cause of vision.

More information can be obtained through the web site: www.knightstemplar.org/ktef/

Gold Sponsor

Santen Pharmaceutical Co. Ltd. Japan

As a specialty company dedicated to the ophthalmic field, Santen carries out research, development, sales and marketing of pharmaceuticals.
Santen is expanding operations in Japan, U.S., Europe and Asia, and sells products in over 50 countries. As a leading company in the field of ophthalmology, Santen aims to contribute to society by supplying valuable products and services to satisfy unmet medical needs.

The ISER Meeting is supported by

Japanese Ophthalmological Society

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Bayer Yakuhin, Ltd.

Bayer Yakuhin Ltd. is a healthcare company which combines business activities of Pharmaceuticals, Consumer Health and Animal Health.
The Pharmaceuticals Division is focused on Cardiovascular & Neurology, Oncology & Hematology, Women's Healthcare, and Ophthalmology.
The Business Unit Ophthalmology offers treatments for retinal disorders such as wet age-related macular degeneration helping to protect the vision of patients.

F. Hoffmann-La Roche Ltd

At Roche, we are researching and developing innovative treatments for people living with a range of eye diseases that cause significant visual impairment and blindness, including age-related macular degeneration (AMD), diabetic macular edema, glaucoma, and other vision-threatening diseases.
We are committed to helping improve the quality of life for people living with devastating eye conditions.

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Menicon is Japan's first contact lens manufacturer, and the only one in the world dedicated to all areas of contact lens business. For more inforamtion please go to: http://www.menicon.com

Bronze Sponsor

BrightFocus® Foundation

BrightFocus Foundation (www.brightfocus.org) is a non-profit organization that seeks to save mind and sight, by funding innovative research worldwide on Alzheimer's disease, macular degeneration, and glaucoma. Since inception, the organization has awarded more than 1,300 research grants for a total of $163 million, including more than $45 million in the last five years alone. BrightFocus also promotes better health through education, providing the public with information about these diseases, including risk factors, detection, current treatments, and coping strategies.

Senju Pharmaceutical Co., Ltd.

Senju is a research-based Japanese pharmaceutical company that develops, manufactures and commercializes a variety of innovative products for the care of the five senses (via the eyes, ears, nose, throat and skin) while especially focusing on the ophthalmologic field, thereby bringing happiness to people by improving the quality of their lives.

Ora, Inc.

Ora, Inc. is the world's leading independent, full-service ophthalmic clinical research and product development firm. Ora's preclinical and clinical models, translational science, unique methodologies and regulatory strategies have been refined and proven across thousands of global projects from the US to Japan.
Learn more at www.oraclinical.com and www.orajapan.jp

Partners

Alcon® Japan

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Alcon is the global leader in eye care. As a division of Novartis, we offer the broadest portfolio of products to enhance sight and improve people's lives. Our products touch the lives of more than 260 million people each year living with conditions like cataracts, glaucoma, retinal diseases and refractive errors, and there are millions more who are waiting for solutions to meet their eye care needs. Our purpose is reimagining eye care, and we do this through innovative products, partnerships with eye care professionals and programs that enhance access to quality eye care. Learn more at www.alcon.com.

The National Foundation for Eye Research

The National Foundation for Eye Research (NFER) is a non-profit organization dedicated to the support and promotion of cataract research with the development of a non-surgical treatment for cataracts as our ultimate goal. The Foundation recognizes lens researchers with the biennial Kinoshita Lectureship and annual Cataract Research Awards. We also support the biennial International Conference of the Lens Conference and provide travel grants for both established and young investigators to attend this meeting. The Foundation is recognized by the U.S. Internal Revenue Service as a publicly supported tax-exempt organization under Section 501(c)(3).

Novartis Pharma K.K.

Novartis provides innovative healthcare solutions that address the evolving needs of patients and societies. Headquartered in Basel, Switzerland, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, eye care and cost-saving generic pharmaceuticals. Novartis products are available in more than 180 countries around the world. Novartis Pharma K.K. is the Japan unit of Novartis Innovative Medicine Division.

Sucampo Pharmaceuticals, Inc.

Sucampo Pharmaceuticals, Inc. is focused on the development and commercialization of medicines that meet major unmet medical needs of patients worldwide. Sucampo has two marketed products – AMITIZA, its lead product, and RESCULA – and a pipeline of product candidates in clinical development. A global company, Sucampo is headquartered in Rockville, Maryland, and has operations in Japan, Switzerland and the U.K.

ARVO

ARVO is a community of 12,000 vision researchers from 75 countries; we are the largest, most respected vision research organization in the world. Our aim to advance research worldwide into understanding the visual system and into preventing, treating and curing its disorders.

Karger

Based in Switzerland, Karger is an international publisher of books and journals in the biomedical sciences. The latest publications in ophthalmology including the new releases 'Retinal Pharmacotherapeutics', 'OCT Angiography in Retinal and Macular Diseases', 'Pediatric Cataract' as well as 'Ocular Tumors' and 'Glaucoma' are available at the bookseller booth or via our website www.karger.com.

WCCT Global

WCCT/Medelis is a global specialized drug development organization with a focus on transforming ophthalmic clinical research to advance global health. We have been conducting ophthalmology trials since 2006, providing full service CRO capabilities for ophthalmic conditions and medical devices. Our own in and out patient eye research center consists of trained experts and a vast database of patients on top of our nationwide site network.

Tokyo

Tokyo offers a great mixture of modernity and tradition. Visitors can experience Tokyo's 400-year-old history at the Imperial Palace, Meiji Jingu Shrine or Senso-ji Temple. Numerous Japanese gardens and parks invite to rest and take a quiet stroll surrounded by trees and flowers in the middle of the busy city. On the other hand, modern tourist spots such as TOKYO SKYTREE®, the world's highest free standing broadcasting tower, or Ginza, Tokyo's high end shopping area, offer excitement and fun.

There are more than 100,000 restaurants in Tokyo and the most Michelin stars in the world. Make sure to get a taste of Tokyo's fine cuisine, be it sushi, ramen, tempura or teppanyaki. What makes Tokyo so special is that not only the high-end restaurants offer the best quality. The quality of ingredients and hygiene standards are very high in general. Malls, hotels, train stations, even department stores have their own restaurants offering Japanese food or authentic fare from other countries.

Around Tokyo

With a little more time on your hand, you have the opportunity to explore some spectacular sights around Tokyo, unparalleled natural beauty and centuries of cultural heritage.

Japan's highest mountain, volcano and mystical symbol Mount Fuji is one of Japan's most popular destinations, and rightly so. You can reach the mountain in less than three hours by train or bus (depending on traffic) from Tokyo city center.
The ancient city Kamakura is a very popular destination to stroll among preserved temples and shrines, including the venerable Tsurugaoka Hachimangu Shrine, spread across the rolling hills and deep forests. This area also has one of the largest open-air Buddha statues in the world, The Great Buddha of Kamakura. The historic city along the seacoast is just a one-and-a-half-hour bus ride from central Tokyo.

A World Heritage Site, Nikko invites casual treks along the river and up into the mountains. The rewards include viewing Toshogu Shrine, dedicated to the memory of Ieyasu Tokugawa who established the Edo Shugunate, and Yomeimon with its artistic sculptures designated as a national treasure. Along the way you can take in dynamic Kegon Falls, breathtaking Lake Chuzeji, and the natural winding Irohazaki road. Nikko is located a convenient two-hour express-train ride from Tokyo's Asakusa.

Welcome Reception

ISER Welcome Reception
Sunday, September 25, 2016
19:00 - 21:00
Eminence Hall, Keio Plaza Hotel

The Welcome Reception is free of charge for all registered participants.
Finger food and beverages will be provided.

Gala Dinner

ISER Gala Dinner
Tuesday, September 27, 2016
19:30 - 21:30
Eminence Hall, Keio Plaza Hotel

Tickets can be booked at the registration counter until Monday, 26 September, 2016.

The ISER Gala Dinner gives attendees a great opportunity to get together with colleagues and new acquaintances in a festive atmosphere and to chat and network during a 4-course-dinner of deluxe Japanese-Western fusion cuisine.
Do not miss this occasion to enjoy an evening of high class food and entertainment. A group of trained Geisha Dancers is going to present an aspect of finest Japanese culture by showing a traditional Geisha dance, accompanied by original live music. The group will be serving tea and is available for photos after their performance, so make sure you bring your camera or smartphone!

Information A – Z

Abstract Book

Abstracts for the ISER XXII Biennial Meeting will be available on a USB Stick which is distributed to all registered participants with the Meeting Materials on site. Please note that this USB Stick will be handed to you in a small white box together with the Meeting Bag.

Airports

Tokyo has two international airports. Narita International Airport (three terminals) is about 60km from central Tokyo, and it is accessible by either the Narita Express in 40 to 60 minutes or the new Sky Access in 36 minutes or Airport Limousine Bus in 85 to 145 minutes (see also ➔ Airport Transfer).

Tokyo International Airport (Haneda) (three terminals) is located within 15km, and it is easily accessible by either train or monorail in 15 minutes or Airport Limousine Bus in 35 to 75 minutes to central Tokyo (this bus stops directly at the meeting venue, the Keio Plaza Hotel. See also ➔ Airport Transfer).

Together they handle all major carriers, providing great access for guests from around the globe. They remain a key hub to the region as well. Narita, for example, offers over 1,430 international flights every week, connecting to 100 cities around the world (as of April 2015). Haneda provides 681 flights weekly, serving 26 cities across the globe (as of July 2015).

Haneda offers less international flights, but is located much closer to the meeting venue.

Airport Transfer

Rail:

The easiest – and fastest – way to reach Tokyo city centre from Haneda or Narita Airport is by train.

From Haneda Airport:

To reach Shinjuku Station, you can take the Monorail and change at Hamamatsu-Cho station to the JR Yamamote Line. This transfer takes around 35 minutes and costs approximately 650 JPY (around $5.50).

From Narita Airport:

The Narita Express takes 80 minutes from Narita to Shinjuku Station and one ticket costs 3,190 JPY (around $26.50).

Bus:

You can also take the Airport Limousine Bus.

From Haneda Airport to Shinjuku the Bus takes 35-75 minutes (depending on traffic) and costs 1,230 JPY (around $10.20).

From Narita Airport:

You can take the Narita Express Bus, but you will have to change to the JR Yamanote Line at Tokyo station. This transfer takes approximately 90 minutes and costs around 1,200 JPY (around $10.00). For more information, visit www.narita-airport.jp/en

Taxi:

Haneda Airport has taxi stands at both terminals. The fare to Shinjuku Station depends on the traffic as the journey will most likely be metered. Haneda Airport is 22km from Shinjuku Station.

From Narita Airport:

Narita Airport is about 60km from Tokyo city centre. Several taxi companies offer services at Narita International Airport. Standard fares to destinations in Tokyo range from 16,000 JPY ($132) to 22,000 JPY ($182), plus expressway tolls.

Some taxi companies adopt a zone fare system, where destinations are divided into zones, each with a uniform fare. The meter is not used.

Banks and Money Exchange

The official currency in Japan is the Japanese Yen (JPY). $1=100 JPY, depending on current exchange rate. Notes come in denominations of 1,000 / 2,000 / 5,000 / 10,000 JPY. Coins come in denominations of 1 / 5 / 10 / 50 / 100 / 500 JPY. Foreign currency may be converted to Japanese yen at banks and stores displaying the “Authorized Money Changer” sign. Rates change daily with fluctuations in the financial markets. Banks in the arrival lobbies of Narita and Haneda international airports also offer currency exchange services, so visitors are safe to land in Japan without carrying any yen.

Banks are generally open on weekdays from 9.00am to 3.00pm. The Japan Post Bank, located in post offices, is open on weekdays from 9.00am to 4.00pm, and to 6.00pm at some branches. While the hours of automated teller machines (ATMs) vary by service and by machine, most Seven Bank ATMs are open around the clock for cash withdrawals. Traveler's checks may be used in most banks, hotels, ryokan (Japanese-style inns), and superstores.

Most ATMs in Japan do not accept credit cards or cash cards issued abroad. Japan Post Bank ATMs, however, do accept foreign credit cards and offer a service menu in the English language. Look for the "International ATM Service" notice on or around the machine, and stickers displaying the VISA, VISA Electron, PLUS, MASTERCARD, Maestro, Cirrus, American Express, Diners Club International, JCB, China UnionPay, and DISCOVER logos.

Seven Bank ATMs, located inside 7-Eleven convenience stores, accept foreign-issued credit cards and cash cards and provide vocal and on-screen guidance in the English, Korean, Chinese, and Portuguese languages. Receipts support these four languages as well. The machines also accept debit cards for cash withdrawals.
A service charge may apply. There is one ATM machine located in the convenience store in level 2F of the Keio Plaza Hotel.

Business Center

There is a business center located in level 2F of the Keio Plaza Hotel, where you can print out files and access the internet. The business center is open daily from 8:00am to 10:00pm.

Catering

The Welcome Reception on Sunday evening as well as two coffee breaks per day from Monday to Thursday are free of charge for all registered Meeting delegates.
The Keio Plaza Hotel has 11 restaurants and 7 bars in the building where delegates are welcome to have lunch/dinner at their own expense.

Certificate of Attendance

Certificates of Attendance will be sent to all registered participants electronically after the Meeting.

Child Care

Please contact info@tokyolm.co.jp for pricing and what is available at the Keio Plaza Hotel.

Climate

September to November is autumn season in Tokyo. Temperatures exceeding 30°C / 85°F may linger into September, and the occasional typhoon may hit as late as October. But the temperature and humidity drop gradually to usher in the crisp, comfortable autumn.

Cloakroom

You will have the opportunity to leave your coat and luggage at a cloak room on the Meeting floor of the Keio Plaza Hotel free of charge.

CME Accreditation

Please note that there will be no CME Accreditation at the ISER XXII Biennial Meeting.
The JOS has approved the ISER XXII Meeting for the allocation of credit points for all Japanese ophthalmologists who will register and attend the meeting. The JOS credit counter for JOS members is located next to the registration and will be open from 7:30am to 6:30pm each day. For more information see ➔ JOS Certification.

Courtesies and Code of Conduct

In consideration of all meeting participants, mobile phones should be turned off in all session rooms. Meeting participants are expected to refrain from the following:

- Inflicting personal threat or harm to any meeting participant, exhibitor or staff
- Inflicting damage to any property
- Preventing speakers from giving their speeches

Remember that there are some customs very specific to the country of Japan.

Credit Cards

It is a good idea to carry an international credit card like American Express, VISA, MASTERCARD, Diners Club, or JCB. Credit cards are accepted at major stores and facilities, and can be used to purchase airplane and Shinkansen tickets and to ride some taxis. When checking in to a hotel, they serve as identification in lieu of a cash deposit. Note, however, that some facilities do not accept credit cards at all, and others may accept only certain types. In Japan, it is best to carry some cash at all times.

Disabilities

All areas that are used for the Meeting in the Keio Plaza Hotel are accessible to participants with disabilities (i.e. persons requiring a wheel chair).

Electricity

The voltage in Japan is 100V and the frequency is 50-60 Hz. The socket is type A, with two flat holes. Using foreign electric appliances will require a frequency converter and plug adaptor. Most hotels have adapters to rent.

Information A – Z

Emergency Numbers and Medical Information

Police (general information): +81 (0)3-3501-0110
Police emergency number: 110
Tokyo Metropolitan Police Department Lost and Found Center:
+81 (0)3-3814-4151
Medical information service: +81 (0)3-5285-8181
(9:00 to 20:00, seven days a week)

In case of illness or injury requiring immediate care, make a call to the fire department at the emergency number "119." Make sure to say you need an ambulance service. An ambulance will be ready immediately.

If an earthquake occurs, first secure safety and stay there until the tremor subsides. Be careful of falling objects and hide underneath a table or the like to protect your head. When the tremors stop, open the door to secure a way out. If it is necessary to evacuate, do not try to get outside in a panic. Make sure to follow the instructions and guidance of employees or store staff.

The nearest hospital from Keio Plaza hotel is the Tokyo Medical University Hospital. It is located 450m north of Keio Plaza Hotel.

Exhibition

Meeting participants are invited to visit the exhibition located on 4F of the Keio Plaza Hotel. The exhibition will feature commercial exhibitors and associations and will be open during the following hours:
Monday, September 26 – Thursday, September 29
8:00am – 5:30pm

Filming and Taking Pictures

Out if respect for speakers' copyright, it is forbidden to take pictures and/or to film during any session.

Insurance

ISER and the Meeting Secretariat cannot accept liability for personal accidents or loss of or damage to private property of participants and accompanying persons.
Attendees are advised to arrange their own adequate travel and medical insurance against medical treatment, accidents, cancellation of bookings, etc.

Internet

The Keio Plaza offers free Wi-Fi to all meeting delegates from September 25 - 29 on the floors where the meeting takes place. Bandwidth may be reduced due to high numbers of users.
Most hotels, coffee shops or libraries have either a public computer terminal or Wi-Fi available. Remember you may need a plug adaptor for Japanese sockets.

JOS Certification

Japanese Ophthalmologists who are member in the Japan Ophthalmological Society have the opportunity to get certification at the ISER Biennial Meeting. All they need to do is bring their JOS member card to the Meeting and have it scanned at the JOS credit counter. It is located next to the registration and will be open from 7:30am to 6:30pm each day.

Language

The official ISER Meeting language is English. Please note that no translation is offered in the scientific sessions or the printed matters of the Meeting.

Letter of Invitation

Official letters of invitation, designed to help overcome administrative difficulties in certain countries in terms of visa issue will be sent upon request. Please note that such letters do not represent a commitment on the part of ISER to provide any financial assistance. If you require such a letter, please apply to the Secretariat during the registration process or at iser2016-registration@kit-group.org and provide your full name and address details with your request.

Meeting Materials

Every registered participant will receive a meeting bag containing the printed final program book, a pocket program book, a USB stick containing all submitted abstracts as well as other useful material at the meeting material counter next to the registration area.

Meeting Secretariat

ISER 2016
c/o K.I.T. Group
Kurfürstendamm 71
10709 Berlin
Germany
Email: iser2016@kit-group.org
Website: www.kit-group.org

Meeting Venue

Keio Plaza Hotel Tokyo
2-2-1 Nishi-Shinjuku
Shinjuku-Ku, Tokyo
160-8330 Japan

Mobile Phones

It is possible that foreign mobile phones do not operate in Japan. Prepaid phones allow calls for as many minutes as is purchased in advance. Some operators also offer prepaid SIM cards for domestic use only, which you can insert into your international mobile phone to get a local phone number and voicemail.
Please note that when using public transportation like trains, subways, and buses, people are asked to set mobile phones to silent mode and are not supposed to talk on their phones while in the vehicle.

Name Badge

A badge is required for admittance to all official meeting sessions and events, as well as the exhibition and poster area. Each participant is asked to present the badge in order to gain access to the Meeting. The badge must be clearly displayed. Lost name badges can be replaced at the registration counter for a respective fee.

Photos and videos

The taking of photos, video and audio recording is prohibited during all oral and poster presentations.

Poster Exhibition

The Poster Exhibition is located on 43F of the Keio Plaza Hotel. Poster Sessions including beverages are scheduled from 17:30 to 19:00 on Monday, September 26 and Tuesday, September 27. These sessions are free of charge for all registered participants.

Program Changes

The Organizer cannot assume liability for any changes in the Meeting Program due to external or unforeseen circumstances.

Registration to the Meeting

All Meeting participants are required to register to the Meeting. It is advised to register online prior to the Meeting and then personally check in at the registration counter on site. Participants may also register on site.
You have the opportunity to register for single days only on site as well.

Registration Fees

Early Registration Fee (deadline July 07, 2016)

ISER Member	$510
Non-member	$655
Young Investigator Member*	$385
Young Investigator Non-member*	$490
Student**	$330

Standard Registration Fee (deadline August 18, 2016)

ISER Member	$580
Non-member	$725
Young Investigator Member*	$435
Young Investigator Non-member*	$540
Student**	$380

Late and Onsite Registration Fee (starting August 19, 2016)

ISER Member	$685
Non-member	$830
Young Investigator Member*	$515
Young Investigator Non-member*	$620
Student**	$420
Single Day Only - ISER Member and Non-member	$185
Single Day Only - Young Investigator Member and Non-member, Student	$160

* Young Investigators shall be predoctoral or postdoctoral (PhD/MD/OD/DVM/DO) equivalent students, clinical residents, or clinical fellows engaged in vision/eye research for no longer than 7 years since their terminal degree.
**Students require a signed letter from a mentor.

Entitlements:

The registration fees include:

- Admission to the scientific program
- Admission to the exhibition and poster area
- Welcome Reception, coffee breaks and poster sessions
- Meeting bag containing final program book and Abstract USB stick[1]

[1] meeting material cannot be guaranteed for late registrants.

Smoking Policy

It is forbidden to smoke in any part of the meeting venue.

Information A – Z

Social Media

Visit us on Facebook 

Speaker Preview Room

All speakers must report to the Speaker Preview Room on level 4F at least two hours prior to their presentation in order to hand over and check their presentation.

Taxes

The consumption tax is 8 percent of the price of products or services purchased (as of April 2014).
The hotel tax applies when the room charge per night per person at a hotel or ryokan in Tokyo is 10,000 yen or more. The rate is 100 yen for charges of 10,000–14,999 yen, and 200 yen for 15,000 yen or more (as of October 2012).

Tipping

Tipping is not customary is Japanese restaurants or hotels. A service charge is applied where appropriate and is clearly stated on the bill.

Tourist Information Office

For general tourist information
Tokyo Metropolitan Government Building (located right next to the Keio Plaza Hotel, 350m walking distance)
(Main Building No.1, 1F)8-1,
Nishi-Shinjuku 2-chome, Shinjuku-ku, Tokyo
Opening Hours: 9:30 to 18:30, seven days a week
Tel.: +81 (0)3-5321-3077
E-Mail: info@tourism.metro.tokyo.jp

Transportation

Tokyo has an excellent public transportation system that connects trains, subways and bus lines to an extensive network. Travelling by train or subway is fast, inexpensive and convenient. However, getting around Tokyo using the local transport system can be challenging, so make sure you familiarize yourself with the lines and destinations before. When purchasing tickets at a station, a large transportation map will always show you the fare you need to pay to reach your destination. You then purchase a ticket with this value. Make sure you keep your ticket once you have validated it, as you will need it to exit the destination station.

Taxi:
There are taxi depots at the airports and most stations. On the street, you can also catch a vacant cruising taxi when you let the driver know by raising your hand. The left rear door is opened and closed automatically by a driver for a customer. You do not have to open or close the door yourself.

Car rental:
In Japan driving is on the left. When renting a car, it is best to make a reservation by phone. Most rental car offices are open from 8:00 to 20:00. To rent a car, you will need to present your driver's license (international driver's licenses are accepted). When returning the car, you must either fill up the tank or pay the office for gas. Please note that the Shuto Expressway and major highways in Tokyo are often congested.

Visa regulations

Many tourists and business travelers to Japan will require no visa or a simple visitor visa if they enter Japan for a period of 90 days or less, for example citizens of Argentina, Australia, Canada, Israel, Singapore, the United States and most countries of Europe. Residents of China, Russia, or the Philippines require a visa.

Welcome Reception

The Welcome Reception will take place on Sunday, September 25, 2016, from 19:00 to 21:00 in the Keio Plaza Hotel. Food and beverages will be served free of charge for all registered participants.

Wi-Fi

Please see ➔ "Internet".

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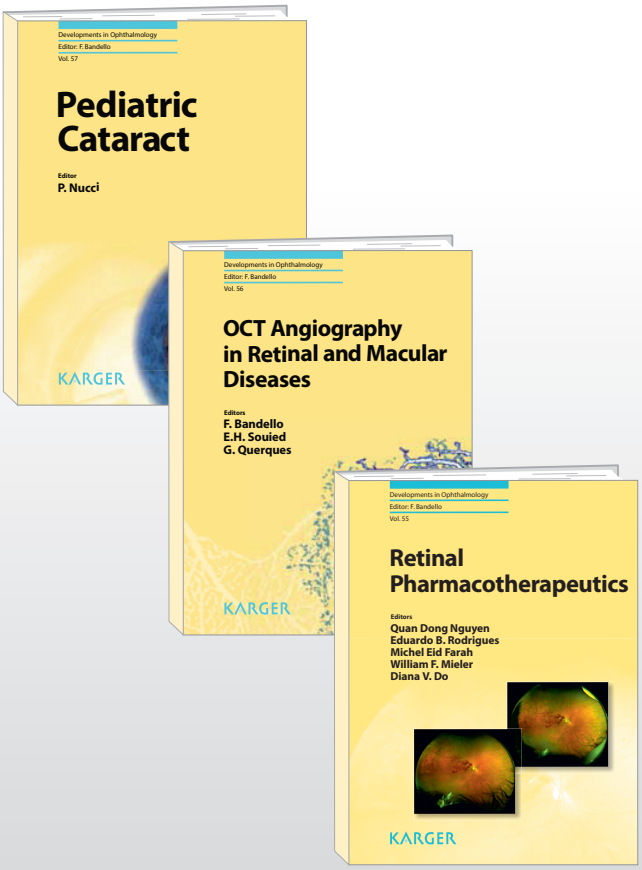

Developments in Ophthalmology, Vol. 57

Pediatric Cataract

Editor: **Nucci, P.** (Milan)
VIII + 112 p., 22 fig., 19 in color, 3 tab., 2016
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OCT Angiography in Retinal and Macular Diseases

Editors: **Bandello, F.** (Milan); **Souied, E.H.** (Créteil); **Querques, G.** (Milan)
XII + 184 p., 120 fig., 107 in color, 1 tab., 2016
CHF 198.00 / EUR 185.00 / USD 233.00 (hard cover)
ISBN 978–3–318–05829–1
www.karger.com/deoph

Developments in Ophthalmology, Vol. 55

Retinal Pharmacotherapeutics

Editors: **Nguyen, Q.D.** (Omaha, Nebr.); **Rodrigues, E.B.** (São Paulo); **Farah, M.E.** (São Paulo); **Mieler, W.F.** (Chicago, Ill.); **Do, D.V.** (Omaha, Nebr.)
XVI + 408 p., 83 fig., 71 in color, 33 tab., 2016
Liste Price: CHF 317.00 / EUR 296.00 / USD 373.00 (hard cover)
Special offer: CHF 159.00 / EUR 148.00 / USD 186.00
ISBN 978–3–318–05564–1
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Things you do that make us happy and things we do that make you happy
We would like to keep doing these things
For everyone's happiness is our priority,
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every time we take the first step

SENJU PHARMACEUTICAL CO.,LTD.

2014年7月作成

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MEETING SECRETARIAT

ISER 2016
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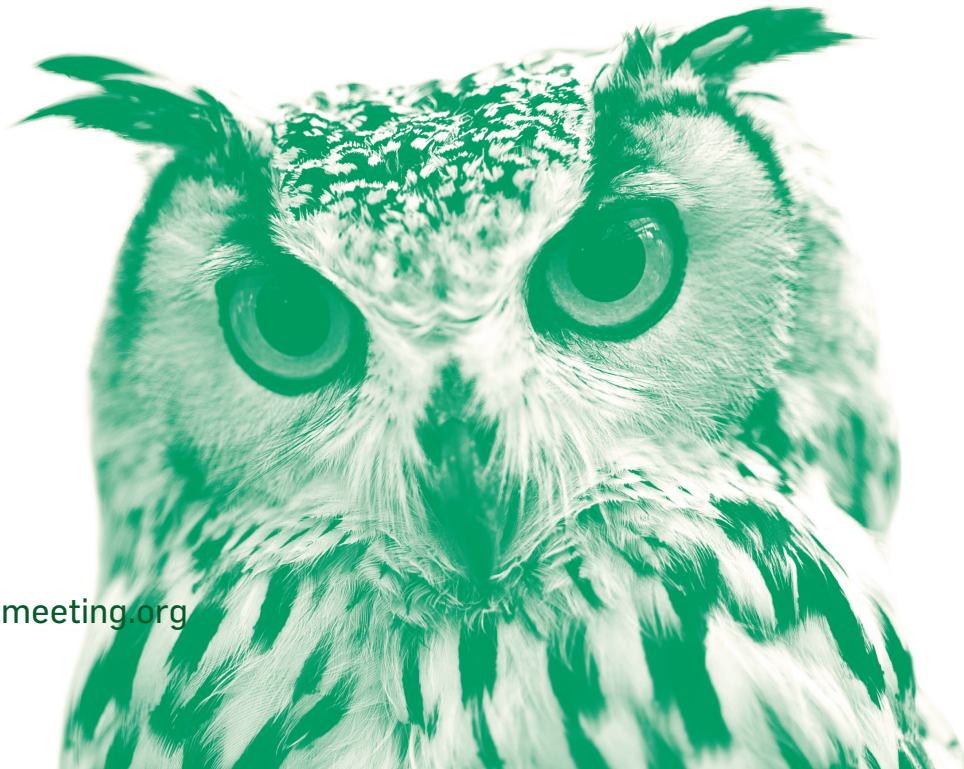
K.I.T.
Association & Conference Management Group

ISER 2018

Save the date!

XXIII Biennial Meeting of the International Society for Eye Research
September 8 – 12, 2018

Belfast, Northern Ireland, UK



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www.iserbiennialmeeting.org