Program
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**JUN 6 (Thursday)**

**Opening Lecture 1**

OL1  Blue Light Matters: The Eye is a Camera and a Clock!
Kazuo Tsubota (Dept. of Ophthalmology Keio University School of Medicine)

**Opening Lecture 2**

OL2  The Pervasive Use of Blue-Light LEDs and Why They Are Here for the Near Future
Charles E. Hunt (Department of Electrical and Computer Engineering, University of California - Davis)

**Briefing Session & Reception**

**JUN 7 (Friday)**

**Workshop 1  LED**

Moderator: Charles E. Hunt (Department of Electrical and Computer Engineering, University of California - Davis)

WS1-1  LED Lighting from a viewpoint of human history and circadian rhythm
Kumpei Kobayashi (Toshiba Materials Co., LTD.)

WS1-2  Photons and Plant Physiology - The Potential of Healthier and More Valuable Plants with LEDs
Cary N. Eskow (Avnet Inc.)
* Video Presentation

WS1-3  The Challenges Facing the LED Industry to Reduce Excessive Blue Light
Charles E. Hunt (Department of Electrical and Computer Engineering, University of California - Davis)

**Workshop 2  Photo Toxicity**

Moderator: Yoko Ozawa (Dept. of Ophthalmology Keio University School of Medicine)

WS2-1  Retinal Phototoxicity - Current Assessments and Challenges
David H. Sliney (Department of Environmental Health Sciences, Bloomberg School of Public Health, Johns Hopkins University)

WS2-2  Basic and clinical aspects of retinal photooxidation stress
Masaki Tanito (Department of Ophthalmology, Shimane University Faculty of Medicine)

WS2-3  Photo-oxidative stress induced chronic inflammation as a causal factor of AMD
Motohiro Kamei (Department of Ophthalmology, Osaka University Graduate School of Medicine)

WS2-4  Disruption of cell-cell junctions and induction of pathological cytokines in the retinal pigment epithelium of light-exposed mice
Yoko Ozawa (Laboratory of Retinal Cell Biology, Department of Ophthalmology Keio University School of Medicine)
Workshop 3  Circadian Rhythm  13:30-15:20
Moderator: Masao Doi (Kyoto University Graduate School of Pharmaceutical Sciences)

WS3-1 Light and Circadian Rhythms
Mariana G. Figueiro (Lighting Research Center, Rensselaer Polytechnic Institute)
* Video Presentation

WS3-2 Circadian rhythm disturbance by night shift-work and risk of cancer
Johnni Hansen (Danish Cancer Society Research Center)

WS3-3 Circadian Rhythm Regulation by NAD+-dependent protein deacetylase “SIRT1”
Yasukazu Nakahata (Gene Regulation Research, Graduate School of Biological Sciences, Nara Institute of Science and Technology (NAIST))

WS3-4 Identification and application of a small molecule activator of the circadian clock protein CRY
Tsuyoshi Hirota (University of California San Diego)

WS3-5 The effects of light on the biological circadian clock and non-visual functions: when and why exposure to light can be a problem
Claude Gronfier (Inserm (French National Institute of Health and Medical Research))

Workshop 4  Prevention from Blue Light Hazard  15:35-16:45
Moderator: Takeshi Ide (Minamiaoyama Eye Clinic)

WS4-1 Light on human physiology and behaviour
Christian Cajochen (Center for Chronobiology, Psychiatric Hospital of the University of Basel)
* Video Presentation

WS4-2 Emixustat Hydrochloride for Dry AMD: A Visual Cycle Modulator Shown to Alleviate Cellular Stresses
Ryo Kubota (Acucela Inc.)

WS4-3 Ophthalmologist’s view for blue light control
Masahiko Ayaki (Department of Ophthalmology, Mita Hospital, International University of Health and Welfare)

JUN 8 (Saturday)

Short Course 1  Photo Toxicity  9:00-11:00
Moderator: Susumu Ishida (Department of Ophthalmology, Hokkaido University School of Medicine)

SC1-1 Light exposure, oxygen metabolism, and retinal damage: yin and yang of the light?
Toshihide Kurihara (Department of Cell and Molecular Biology, The Scripps Research Institute)

SC1-2 The Blue-Light Hazard (Photomaculopathy) and Retinal Phototoxicity
David H. Sliney (Department of Environmental Health Sciences, Bloomberg School of Public Health, Johns Hopkins University)

SC1-3 Towards understanding thresholds and mechanisms of photochemical damage from Ophthalmic exposures
Jennifer J. Hunter (Flaum Eye Institute, Center for Visual Science & Biomedical Engineering, University of Rochester)

SC1-4 Balancing ocular risk and benefit in spectral content of light
Russell N. Van Gelder (Department of Ophthalmology, University of Washington School of Medicine)
* Video Presentation
Short Course 2  LED  
11:15-12:15
Moderator: Charles E. Hunt (Dept. of Electrical and Computer Engineering, University of California - Davis)

SC2-1  Making White Light using LEDs: Where Does The Blue Light Come From?
Charles E. Hunt (Department of Electrical and Computer Engineering, University of California - Davis)

SC2-2  LED lighting
Yoshio Manabe (Lighting Business Group Eco Solutions company Panasonic Corporation)

Luncheon Seminar  
12:30-13:15
Moderator: Kazuo Tsubota (Dept. of Ophthalmology Keio University School of Medicine)

LS  The Role of Lutein and Zeaxanthin in Protection against Blue Light Induced Damage to the Retina
Paul S. Bernstein (Moran Eye Center, University of Utah)
(Sponsored by NIDEK CO., LTD.)

Short Course 3  Circadian Rhythm  
13:30-15:30
Moderator: Hitoshi Okamura (Kyoto University Graduate School of Pharmaceutical Sciences)

SC3-1  Light Responsiveness and phase adjustment of the Suprachiasmatic Nucleus
Wataru Nakamura (Osaka University Graduate School of Dentistry)

SC3-2  Clock, light and diseases
Hitoshi Okamura (Kyoto University, Graduate School of Pharmaceutical Science)

SC3-3  The role of Melanopsin in behavioral adaptation to ambient light
Satchidananda Panda (Salk Institute for Biological Studies)

SC3-4  Circadian rhythms and non-visual functions: effects of light in humans
Claude Gronfier (Inserm (French National Institute of Health and Medical Research))

Short Course 4  Prevention from Blue Light Hazard  
15:45-16:45
Moderator: Kazuo Tsubota (Dept. of Ophthalmology Keio University School of Medicine)

SC4-1  Macular Pigment Changes in Pseudophakic Eyes Quantified with Resonance Raman Spectroscopy
Akira Obana (Department of Ophthalmology, Seirei Hamamatsu General Hospital/Department of Medical Spectroscopy, Applied Medical Photonics Laboratory, Medical Photonics Research Center, Hamamatsu University School of Medicine)

SC4-2  Photobiological Safety of Lamps: ASSESSMENT through the EN-62471:2008 standard
Josep Carreras (Catalonia Institute for Energy Research (IREC))

Closing Remarks  
16:45-16:55
Kazuo Tsubota (Dept. of Ophthalmology Keio University School of Medicine)