
Program

Program

JUN 6 (Thursday)

Opening Lecture 1 ————— 16:00-16:20

- 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 ————— 16:20-16:40

- 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 ————— 16:40-18:30

JUN 7 (Friday)

Workshop 1 LED ————— 9:00-10:10

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 ————— 10:25-11:55

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 (Centere 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)