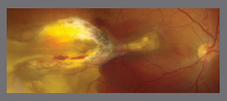
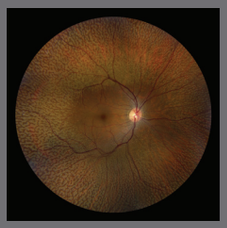
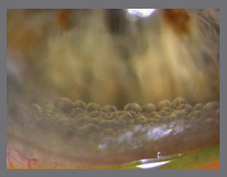
Alan Frohlichstein, CRA, FOPS



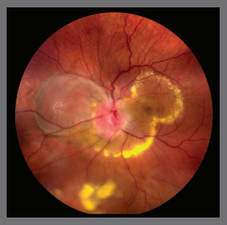
Alexis L. Smith, CRA, OCT-C



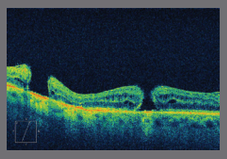
Bradley A. Stern, CRA, OCT-C



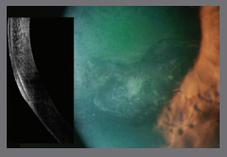
Brian J. Detwiler, COA, CRA



Michael C. Bono, CRA



Robert G. Shutt, CRA, OCT-C



Steven F. Ogilvy, CRA, OCT-C

OPHTHALMIC PHOTOGRAPHERS' SOCIETY

EYE IMAGING EXPERTS

41ST ANNUAL EDUCATIONAL PROGRAM

OCTOBER 15TH - 19TH, 2010

SHERATON CHICAGO HOTEL AND TOWERS

CHICAGO, ILLINOIS

2010 PROGRAM SPONSORS

Platinum Contributors

Heidelberg Engineering, Inc.
**Haag-Streit, USA*
**Escalon Digital Solutions*
**Kowa Optimed, Inc.*
Carl Zeiss Meditec, Inc.
**OIS, Inc.*
Optovue, Inc.
**EyeSupply USA, Inc.*

Gold Contributor

Ellex/Innovative Imaging
OPKO Instrumentation

Silver Contributors

Apollo Ophthalmics
Adobe Systems Incorporated
**Topcon America Corporation*
**Canon Medical Systems*

Bronze Contributors

Nidek Incorporated
TTI Medical
**Clarity Medical Systems*

Raffle Items and Supplies

**Haag-Streit USA*
**EyeSupply USA, Inc.*
TTI Medical
Carl Zeiss Meditec, Inc.
Heidelberg Engineering, Inc.
Choices for Service in Imaging, Inc.
**Escalon Digital Solutions*
**Ophthalmic Imaging Systems, Inc.*
Adobe Systems Incorporated

***Sustaining Member**

The Ophthalmic Photographers' Society wishes to express gratitude to these companies and their representatives who furnish financial contributions, equipment, supplies and technical support for the Annual Educational Program. Without their support and enthusiasm the workshops and other portions of this program would not be possible.

October 15-19, 2010

Sheraton Chicago Hotel & Towers

301 East North Water Street
Chicago, Illinois

For Hotel Accommodations contact the AAO Housing Office online at www.aao.org

Registration Information

Pre-Registration

To pre-register, **a registration form must be postmarked before September 20th.** Pre-registration saves you time and money and increases the chance that you will receive all requested classes and workshops. Additional forms are available from the OPS Membership Office by calling 1-800-403-1677 or 417-725-0181 and from the OPS Web site at www.opsweb.org. Acceptable forms of payment are checks in U.S. dollars, Visa, Mastercard or Discover. **If you pre-register, you must pick up your course tickets at on-site registration**. OPS membership is not a requirement to attend the annual educational program.

General Registration Fee

You must pay the general registration fee to register for courses. The general registration includes admission to special events - the Scientific Paper Session, the J. Donald M. Gass Memorial Lecture and the Awards Reception.

Workshop Lecture "WSL" Course Registration

Many workshops have lecture prerequisites. You must register for both the lecture and workshop components. Lecture material will not be presented during the workshops. **You are <u>required</u> to complete the workshop lecture before the workshop.** Workshop lectures are marked "WSL" in the course descriptions.

Course Handouts

The OPS attempts to procure handouts from each speaker. Handouts that are provided to the OPS before an established deadline are provided for each lecturer. It is the responsibility of each lecturer to provide handouts to the OPS for duplication and distribution.

Cell phones and pagers must be turned off while attending all lecture and workshop sessions. Audio and/or video recording is strictly prohibited.

On-Site Registration

The on-site registration area will be located in the Parlor C Room and will be open Thursday 2:00 pm - 7:00 pm; Friday and Saturday 7:30 am - 5:00 pm; Sunday 7:30 am - 3:30 pm; Monday 7:30 am - 5:00 pm; and Tuesday 8:00 am -12:00 pm. Registration will be extremely busy at the start of the program on Friday and Saturday so please plan to register at least one hour prior to your first course.

Refund Policy

Cancellations prior to September 20, 2010 will incur a $50.00 cancellation fee. Pre-registration meeting, course and workshop fees will not be refunded after September 20, 2010. Course tickets may be exchanged for tickets of equal value depending upon availability. Fees will not be refunded nor will tickets be exchanged after the event has begun.

Continuing Education Credit

Approved OPS continuing education credits are listed at the end of each course description. Application has been made for JCAHPO credits. The OPS web site will also list the approved credits for each course (www.opsweb.org). Continuing Education Credit will be awarded to all registrants who present a ticket for admission at the beginning of the course, attend the course, and submit a properly completed course evaluation card at the conclusion of the course. CEC documentation will be mailed to registrants four to six weeks after the Educational Program.

Transportation

Air travel may be arranged to Midway Airport or Chicago O'Hare International Airport. Taxi or shuttle service to the Sheraton Chicago Hotel is available from both airports - approximately $35-$40 from O'Hare; $27-$30 from Midway. The Blue Line rapid transit train between downtown (Dearborn St subway) and O'Hare takes about 45 minutes and costs $1.75. The Orange Line train goes between downtown and Midway Airport. Follow the signs "Trains to the City".

2010 Educational Program Team

General Chairman
Robert W. Cavicchi, CRA, FOPS
Beetham Eye Institute/Joslin Diabetes Center
1 Joslin Place
Boston, MA 02215
(617) 264-2778
email: robert.cavicchi@joslin.harvard.edu

Equipment Coordinator
LeRoy 'Jud' Judkins, COA, OCT-C
Eye Associates Northwest, PC
1101 Madison - Suite 600
Seattle, WA 98104
(206) 215-2020
email: ljudkins@eanw.net

Audio-Visual Coordinator
Hoang Nguyen, CRA, OCT-C
Colorado Retina Associates
8101 E. Lowry Blvd, Suite 210
Denver, CO 80230
(303) 984-0189
email: opsav_email@yahoo.com

OCT Workshop Coordinator
Lydia Dimmer, CRA, COT, OCT-*C*
Eye Associates Northwest, PC
1101 Madison - Suite 600
Seattle, WA 98104
(206) 342-6140
email: ldimmer@eanw.net

Workshop Coordinator
Kirsten Locke, CRA, RN
Retina Foundation of the Southwest
9900 N. Central Expressway, Suite 400
Dallas, TX 75231
(214) 363-3911 x114
email: kglocke@meistro.net

Room Monitor Coordinator
Laura Savage, COMT, CRA
2 Canterbury Road
Chichester, NH 03258
(603) 798-3472
email: ops.roommonitor@tds.net

Registration, Pre-registration and Sponsorship
Barbara McCalley
Executive Director
OPS Membership Office
1887 W. Ranch Rd.
Nixa, MO 65714
1-800-403-1677 or (417) 725-0181

Education Chairman
Lydia Dimmer, CRA, COT, OCT-*C*
Eye Associates Northwest, PC
1101 Madison - Suite 600
Seattle, WA 98104
(206) 342-6140
email: ldimmer@eanw.net

Scientific Session Coordinator
Robert W. Cavicchi, CRA, FOPS
Beetham Eye Institute/Joslin Diabetes Center
1 Joslin Place
Boston, MA 02215
(617) 264-2778
email: robert.cavicchi@joslin.harvard.edu

Don Wong Award Coordinator
Denise Cunningham, CRA, RBP, Med, FOPS
National Eye Institute of NIH
Bldg. 10, Rm 10C401
10 Center Drive, MSC 1863
Bethesda, MD 20892
(301) 594-7065
email: cunninghamd@nei.nih.gov

Scientific Exhibit Print Division
Jim Strong, CRA
Penn State Hershey Eye Center
500 University Drive
UPCI Suite 800, HU19
Hershey, PA 17033-0850
(717) 531-0003 ext. 283348
email: jstrong1@hmc.psu.edu

Scientific Exhibit Stereo Division
Marcela Hickey, CRA
Bascom Palmer Eye Institute
Retina Center of Naples
311 9th Street N, Suite 100
Naples, FL 34102
(239) 659-3985
email: mhickey@med.miami.edu

Scientific Exhibit Booth Coordinator
Allison Schmidt, CRA
620 Solon Rd
Waxahachie, TX 75165
(281) 451-9574
Email: ophthal1@hotmail.com

SPECIAL EVENTS
&
ORGANIZATIONAL MEETINGS

Thursday, October 14th

Board of Education **- Parlor A -** Informal pre-program meeting to finalize annual program details.

Friday, October 15th

Scientific Paper Session **- 2:45 pm - 5:00 pm - Chicago Ballroom 9/10 -** This is our highly respected paper session featuring current research and innovations by ophthalmic imagers. The prestigious Don Wong Award will be given to the outstanding paper of the session. It's a wonderful educational opportunity! A published collection of the abstracts will be available at the session. Continuing education credits will be awarded to those attending this session. General registration is required to attend this session.

The Sixth Annual J. Donald M. Gass Memorial Lecture **– 6:00 pm - 7:00 pm – Chicago Ballroom 9/10**
The J. Donald M. Gass Lecture honors the memory of the man who pioneered the use of fluorescein angiography to expand our understanding of a wide variety of retinal disease processes. This year's lecture will be presented by Giovanni Staurenghi, MD, Professor of Ophthalmology at the University of Milan, Italy. Dr. Staurenghi obtained his medical training at the University of Pavia, Italy and his ophthalmology training at the University of Milan. He received fellowship training in retina at the Schepens Eye Research Institute in Boston and continued there as a visiting Scientist. He returned to the University of Milan where he is currently Professor and Chairman of the University Eye Clinic and Director of the 2nd School of Ophthalmology. His research has significant importance in retinal degeneration, with an emphasis on different imaging modalities and treatment. He is a member of ARVO, the Macula Society, the Opthalmic Photographers' Society, and the American Academy of Ophthalmology. Dr. Staurenghi has numerous publications in many international scientific journals and acts as reviewer for numerous journals. He is also a scientific adviser of two Reading Centers.

You won't want to miss this important lecture which is included in the general registration fee.

Awards Reception **- 7:30 pm - 10:30 pm - Chicago Ballroom 6/7 -** To start off the meeting with a festive but relaxing way to meet and greet friends and colleagues, the OPS Reception and Awards banquet will be blended into one event again this year. While last year highlighted historic milestones in our profession, this year will celebrate all of us and the great accomplishments of 2010! It's the best way to help you fit in all your important evening social events while in Chicago, and the perfect opportunity to laugh and converse with other OPS members.

The event starts at 7:30 pm, and your registration for the educational program will be your ticket to this special soiree, filled with fun, friends, food, music and all good things OPS. You can even bring a friend by purchasing a guest-ticket with your registration. Come partake of good Chicago fare, bask in the incredible award winning images from our 2010 Scientific Exhibit, and share in congratulating the Don Wong, Csaba Martonyi, and Best Journal Article winners, as well as our newly elected Fellows and newly minted CRAs and OCT-*C*s. Don't forget the raffle to support the OPS Endowment Fund which funds the Johnny Justice Jr. Scholarship and other OPS special projects.

Please join us for this festive start to a great educational program!

Saturday, October 16th

Fellowship Committee **- 7:15 am - 8:15 am - Parlor A -** Annual business meeting conducted by Denice Barsness, CRA, FOPS. More information will follow in a separate mailing.

Sunday, October 17th

CRA and OCT-C Written Examination **- 8:30 am - 11:00 am - Parlor A -** Conducted by the Board of Certification.

Scientific Exhibit Committee **- 9:30 am - 11:00 am - TBA -** Conducted by Jim Strong.

"Why Certify?" **- 12:00 pm to 1:00 pm - Parlor A -** Conducted by the Board of Certification.
You may know why but do you know how? Members of the Board of Certification will be present to answer your questions about the CRA™ and OCT-C programs. You will have the opportunity to learn what makes a portfolio submission acceptable, hear about the examination experience and learn the advantages of becoming certified. This is a come and go as you wish session, so stop by, meet your Board of Certification, and get the right answers to your certification questions. Earn your imaging credentials from the *Eye Imaging Experts!* Please join us and learn more!

OPS Membership Meeting **- 4:00 pm - 6:00 pm - Erie -** This is the annual meeting of the OPS membership, where the projects and progress of the Society are reported and discussed. This meeting will not only cover OPS business, but emphasize member participation in the Society. Help decide how the OPS can best serve our profession by supporting the Society with your presence and your participation. Contact President Paula Morris, CRA, FOPS, c/o OPS Membership Office, (800) 403-1677, for information about adding items to the meeting agenda.

Monday, October 18th

Journal Editorial Committee **- 5:00 pm - 6:00 pm - Parlor A -** Conducted by Journal Editor, Chris Barry, CRA, FOPS.

CRA Performance Examination **- 6:00 pm - 9:00 pm -** Conducted by the Board of Certification.

OPS Members are welcome and encouraged to attend Board and committee meetings of the Society.

Dear Colleagues,

It is my pleasure to welcome you to the 41st Annual Program in Chicago. There could not be a more fitting city than this progressive, chic, and cultured Midwest jewel to host our meeting. Here we will mingle with many talented and respected imagers and researchers. It is a time to refresh our zest for our field and walk away with added knowledge and skills while marveling at all that man is capable of.

The field of ophthalmology is varied in its scope and continuously stimulates those who are fascinated by the medical aspects, as well as us techies who like to analyze and experiment with the LATEST technology. A curiosity to understand it all can grab you and demand your attention. If you are new and need to establish a good foundation in ophthalmic imaging, OPS meetings are ***the*** *place to be. For those who have gained competence already, the Annual Programs are an opportunity to hear about the latest advances and engage in many opportunities to network or share that knowledge with others. World-renowned speakers grace our meeting year after year. By supporting us in this way they are expressing how much they value our skill. The talent that is the make-up of our cool little society is phenomenal!!! A star-studded cast of speakers is the hallmark of all of the OPS programs and so it is again this year with Drs. Cousins, Jaffe, Jampol, Mieler, Sergott, and Staurenghi…. to list just a few.*

The information needed to perform at ever higher levels is not easily gleaned from books. There is only one source for the comprehensive knowledge necessary to excel in our profession – OPS Programs.

I am particularly pleased to have the role of Education Chair, because I believe that we, as constituents of the OPS, are in a position to influence our own professional destiny by becoming active within our Society. It is also a welcome way to say 'thank you' to the OPS for giving me the tools to further my own career over the years, and for this experience of taking an active part in enhancing the skills of others.

I hope you enjoy the meeting.

Lydia

Lydia Dimmer, CRA, COT, OCT-C
Education Chair
OPS 41st Annual Educational Program
Office: (206) 342-6140

FRIDAY, OCTOBER 15th

9:45 am – 10:45 am

FR-1-A **Missouri**
Anatomy and Physiology of the Retina and Choroid
Paul L. Zimmerman, MD
The **basic** anatomy of the ocular fundus will be reviewed from a clinical perspective. Anatomical dimensions and landmarks will be described and the interrelationship of the retina and choroid will be discussed. The dynamics of retinal and choroidal circulation will be emphasized. At the end of this course, the student should be able to identify the major ocular structures of the human eye and describe the retinal circulation.
CEC OPS 1

FR-1-B **Huron**
Art in Ophthalmic Photography
James Gilman, CRA
As scientific imagers, we are called upon to accurately record a patient's condition. As we progress at using our tools, we select the best filters, cameras, and digital systems to aid in diagnosis and subsequent treatment. In the process, we also discover the beauty of what we see and apply artistic aesthetics to the creation of those images. This lecture will explore ways to apply an artistic approach to making images using examples of successful and unsuccessful ways to work with ophthalmic imaging. At the conclusion of this course, the students should be able to give examples and describe how artistic aspects of photography can be applied in ophthalmic images.
CEC OPS 1

FR-1-C **Erie**
Coding for Special Tests
Kim Ross, OCS, CPC
This course will review the principles of coding for medical services and it will focus on specifics in ophthalmology as they apply to CMS requirements for coding special tests. Consideration will be given to unilateral vs. bilateral codes, levels of supervision, correct coding initiative, and covered diagnoses. At the conclusion of this course, the student will be able to define the terms ICD-9, CPT, CCI and LCD. She/he will also be able to elaborate on some specific requirements as they pertain to special testing.
CEC OPS 1

FR-1-D **Superior A/B**
Fundus Autofluorescence Imaging: The Basics, Technique and Understanding
Dennis Orlock, CRA, FOPS
Fundus Autofluorescent (FAF) imaging has been a tool in ophthalmic imaging for decades but only occasionally provided useful information. With the advent of scanning laser ophthalmoscopes and high-resolution digital fundus cameras sensitive in the FAF wavelength, this technique has evolved from a novelty application to a broad based application and has been helpful in studying retinal disease progression, especially macular degeneration. This course will review the basics of FAF and also demonstrate the technique needed to take diagnostic FAF images on the SLO and FAF modified fundus camera. At the end of this course, the student should be able to distinguish the four known classes of ophthalmic "fluorescence", explain what information is gained by auto-fluorescent imaging, and describe basic imaging principles.
CEC OPS 1

11:00 am – 12:00 pm

FR-2-A **Missouri**
Anatomy of a Clinical Trial
Kathleen Dowell
There are numerous clinical trials ongoing around the world, and many of the ophthalmological trials employ imaging for data collection. This course goes beyond the required protocol for image capture and looks at clinical trials empirically. It will describe the typical process from inception to completion of a clinical trial, including the laws governing the progression of the various stages. At the conclusion of this course, the student will be able to describe some of the regulations clinical studies are subject to as well as how clinical studies are structured to ensure integrity of the data they are designed to collect.
OPS CEC 1

FR-2-B **Huron**
What You Need to Know About Spectral Domain OCT
Dirk-Uwe Bartsch, PhD
Prerequisite: Experience with TD-OCT imaging.
This lecture will describe the **basics** of SD-OCT technology and compare the difference to Time-Domain OCT (Stratus OCT). In addition, the lecture will compare the seven different SD-OCT devices (Bioptigen, Cirrus, Opko, Optopol, Optovue, Spectralis, Topcon 3DOCT) and their clinical applications. Pitfalls and artifacts will be addressed. At the end of the course, the student should be able to describe the basic differences between the OCT devices and discuss their role in clinical practice.
CEC OPS 1

FR-2-C **Erie**
Imaging IntraOcular Tumors
Michael P. Kelly, CPT; Ditte Hess, CRA, FOPS
Prerequisite: Working knowledge of fundus photography and fluorescein angiography.
Ophthalmic imagers play a vital role in the documentation of tumors of the eye. At most private practices and some institutions, imagers infrequently photograph tumors. When called upon to do so, the protocol can seem new each time. To achieve full photographic documentation, many factors and techniques need to be considered. This

course will provide information regarding these factors and techniques and will provide a standard protocol applicable to most tumor case scenarios. At the conclusion of this course, the students will have gained exposure to the varied appearance of these intraocular lesions of the eye, and they will be able to describe the purpose of photographing intraocular tumors, as well as the standard photographic protocol applicable.
CEC OPS 1

FR-2-D **Superior A/B**
Use of the iPhone in Ophthalmology
Leslie MacKeen, BSc, OA, CRA
This lecture will provide an overview of the ever-evolving applications for the iPhone in ophthalmology. The ophthalmic world can instantly create, access and download images, messages, reports, results, statistics, perform ophthalmic tests, use it for a fixation device, deliver patient education and more, all through the iPhone. Oh, and of course it can make photographs and capture video, too. "Case reports" will highlight current scenarios where the iPhone is being actively applied specifically in ophthalmic imaging. At the completion of this course, attendees will be able to describe how smart phones, such as the iPhone are transforming ophthalmic research, education, and clinical practice.
CEC OPS 1

12:15 pm – 1:15 pm

FR-3-A **Missouri**
What's That I See on My OCT?
LeRoy 'Jud' Judkins, COA, OCT-C
This **basic** course is designed to further the attendee's understanding of OCT images, how they are acquired, and how they compare to other modalities. There will be discussion on how the images are generated, how to view the images, and how to process the information the machines provide. OCT images will be compared to A-Scans, B-Scans, Fundus Photos, Fluorescein Angiography, and Visual Field images to illustrate a comprehensive review of the structure and function of the retina. At the conclusion of this lecture, the student will have a better concept of how the OCT images are formed as well as the special orientation and depiction of common pathology.
CEC OPS 1

FR-3-B **Huron**
Current Clinical Study Protocols:
A Reading Center's Perspective
Dennis W. Thayer
This course will familiarize the ophthalmic photographer with the important role of photography in clinical trials from the reading center's perspective. Photography protocols, photographer and digital system certification, and photographic methods will be presented. The second part of the course will feature audience participation and discussion of challenges reading centers and clinical centers face as we transition from film to digital images. At the end of this course, the student should be able to identify the proper method of photographic documentation for clinical trials certification and describe some of the challenges reading centers face in the digital transition.
CEC OPS 1

FR-3-C **Erie**
White Spot Syndromes of the Retina
Lee Jampol, MD
This lecture will review the white spot syndromes including birdshot, APMPPE, serpiginous choroiditis, relentless chorioretinitis, mulltifocal choroiditis, MEWDS, AZOOR, and persistent placoid chorioretinopathy. The results of imaging in these entities will be shown including fluorescein and ICG Angiography, fundus autofluorescence, and OCT. The follow-up and management will be reviewed and the pathogenesis of these various entities will be discussed. At the conclusion of this lecture, the student will be able to differentiate between several white spot syndromes and correlate clinical signs to their appearance in various imaging modalities.
CEC OPS 1

FR-3-D **Superior A/B**
Digital Artifacts in Ophthalmic Imaging
Robert Curtin, CRA, FOPS; Sarah Moyer, CRA, OCT-C
Imaging and diagnostic testing are crucial to accurate diagnosis and treatment of patients. Identifying and understanding how to prevent artifacts that occur in these tests is critical to acquiring and interpreting results accurately. This course will identify common artifact problems with various imaging and diagnostic testing modalities such as Time Domain and Spectral Domain OCT, fundus photography, fluorescein angiography, ICG angiography, autofluorescence, and slit lamp photography. Instrument maintenance and technique, patient management and other issues that can affect image quality will be addressed. At the completion of this course, the student will be able to identify common testing artifacts and have knowledge of how to correct them.
CEC OPS 1

1:30 pm - 2:30 pm

FR-4-A **Missouri**
Evaluation, Diagnosis, and Treatment of Age-Related Macular Degeneration
William F. Mieler, MD
This course will provide the attendee with an overview of the evaluation, diagnosis, and treatment of patients with age-related macular degeneration (AMD). The role and use of optical coherence tomography (OCT), fluorescein angiography (FA), indocyanine green (ICG) angiography, and autofluorescence will be discussed with regard to assessment of the patient at baseline, as well as the role in monitoring the response to therapy. Treatment options for both dry and exudative AMD will be reviewed, including proven treatments as well as experimental options. At the end of this course, students should be able to describe the

role of ancillary testing (angiography, OCT) in the assessment of patients with AMD, and review the current proven treatment options for exudative AMD.
CEC OPS 1

FR-4-B **Huron**
Protecting Your Ophthalmic Imaging Network: System Safety, Firewalls, and VPN's
Joseph Warnicki, FOPS; Paul R. Montague, CRA, FOPS
This course will describe possible hazards in networking ophthalmic equipment and present possible solutions for isolating cameras and other imaging devices while providing clinical access to the data for patient care. The roles of Firewalls, Virtual Private Networks (VPN's) and other security measures in securing devices and data will be discussed. At the conclusion of this course, the student will be able to define network risks and have a basic understanding of Firewalls, VPN's, and other network security tools.
CEC OPS 1

FR-4-C **Erie**
SD-OCT - More Than Just a Pretty Picture
Karl Csaky, MD
This course will introduce the participants to the various retinal structures identified on SD-OCT images. The use of quantitative measures for these retinal structures will be discussed and the steps in the future care of patients with retinal diseases will also be addressed. Steps to improve image quality needed to quantify these structures will be presented as well as case studies which are used to highlight concepts presented in this course. At the conclusion of this lecture, the student will be able to identify the structure of the retina as seen on an OCT image. He/she will be able to discuss how information from OCT aids in the analysis and management of retinal disease, as well as outline characteristics of good quality images.
CEC OPS 1

FR-4-D **Superior A/B**
Retinal Imaging - Present & Future
Alexander Walsh, MD
This **advanced** course reviews structural and functional retinal imaging modalities with an emphasis on newer modalities such as OCT, autofluorescence, and photoacoustic imaging. Each modality will be discussed in reference to the tissue layers, such as retina, RPE and choroid, that it can image. The potential for imaging of the entire eye with swept source OCT will also be discussed. At the end of this lecture, the student will be able to list the imaging modalities that are used to examine the retina, compare and contrast which tissue the various modalities are designed to image, and discuss some of the new technologies available and in development.
CEC OPS 1

2:45 pm – 5:00 pm

Scientific Paper Session
Chicago Ballroom 9/10

6:00 pm – 7:00 pm

The Sixth Annual
J. Donald M. Gass Memorial Lecture

FR-6-A **Chicago Ballroom 9/10**
Retinal Imaging: Our World of Wonders
Giovanni Staurenghi, MD
The ever-expanding world of retinal imaging will be reviewed - from the classical fundus camera film-based images to the modern techniques such as Infrared, Blue, Yellow and near-Infrared Autofluorescence. The technique of dynamic fluorescein and Indocyanine-green angiographies will be presented, highlighting the respective retinal and choroidal circulations. Treatment modalities, based on information obtainable only through dynamic angiographies, will be presented alongside dye-enhanced treatments carried out during the imaging session.
Spectral Domain OCT, in correlation with high-resolution Fluorescein and ICG Angiographies will be discussed in order to afford a comprehensive view of the retina and choroid. As the technological advances of the recent past have entered the fields of medical and ophthalmic imaging, new and imaginative imaging techniques have emerged offering us unparalleled views of the retina at ever-growing levels of resolution and detail. Some of these ground-breaking images will be discussed in context with their technologies. At the end of this lecture, participants should have an overview of the current options as well as the future of retinal imaging.
CEC OPS 1

7:30 pm – 10:30 pm

Awards Reception
Chicago Ballroom 6/7

This event is included in the general registration fee; however, you may purchase guest tickets if you wish to bring someone who isn't registered for the program.

SATURDAY, OCTOBER 16TH

8:30 am – 9:30 am

SA-1-A **Missouri**
Imaging Advances in Genetics
Alan Kimura, MD
This **advanced** lecture will discuss some very exciting advances across basic research and increasingly translational research, and now in human clinical trials of novel therapies. Our understanding of genetics is just beginning to yield the first therapies, previously never dreamed of, such as human gene therapy, stem cell transplants, re-engineered RPE cells designed to be implanted within failing eyes to stave off apoptosis. The ability to accurately image the retina with ever greater resolution using FAF, OCT, and possibly adaptive optics is

critical for diagnosis and follow-up of treatment effects of the new therapies. Ophthalmic imaging will once again play an essential role in the detection and management of blinding diseases. Upon completion of this course, students should be able to list genetic therapies and research relevant to imaging in genetics.
CEC OPS 1

SA-1-B WSL Huron
Time Domain OCT Imaging
Carl Edouard Denis, CRA, OCT-C
This **basic** course will discuss the photographic technique of optical coherence tomography. Fundamentals in the operation of the instrument and clinical examples will be presented. Tips and techniques in obtaining diagnostic images will be shown. Common scan modes and their clinical applications will be demonstrated. Comparative images of OCT and traditional ophthalmic photography images will be shown. Upon completion of this course, participants should be able to list basic techniques for OCT procedures, and identify some of the common scans for OCT interpretation. **This lecture is required if you wish to take the corresponding TD-OCT Workshop, SA-2-F-WS.**
CEC OPS 1

SA-1-C Erie
OCT for Neuro-Ophthalmology
Robert Sergott, MD
In this lecture intriguing cases and uses for OCT in neurology and neuro-ophthalmology will be discussed as well as the principles and applications of OCT when imaging patients with neurological vision problems. Tips and techniques in obtaining images will be shown. At the end of this course, the student should be able to list the most common characteristics of the neuro-ophthalmic diseases and identify how to overcome problems when imaging these patients.
CEC OPS 1

SA-1-D WSL Superior A/B
Introduction to Spectral Domain OCT
Dennis Orlock, CRA, FOPS
Spectral domain (SD-OCT), also known as Fourier or Frequency Domain Optical Coherence Tomography (FD-OCT), is the next generation of the current standard, Time Domain OCT (TD-OCT) (Zeiss Stratus). This introductory course will discuss the differences between these two systems. Current SD-OCT systems that are commercially available will be discussed. Fundamentals in the operation of the instrument and clinical examples from the systems will be presented. Tips and techniques in obtaining diagnostic images will be shown. Common scan modes and their clinical applications will be demonstrated. Comparative images of SD-OCT, TD-OCT and traditional ophthalmic photographs will be shown. Upon completion of this course, participants should be able to list basic techniques for SD-OCT procedures, and identify some of the common differences between SD-OCT and TD-OCT. **This lecture is required if you wish to take one of the corresponding Introduction to SD-OCT workshops, SA-2-O-WS, or SU-2-O-WS.**
CEC OPS 1

9:45 am – 10:45 am

SA-2-A Missouri
Understanding Retinal/Vitreous Surgery
Howard Fine, MD
Vitreo-retinal surgery can be used to manage a number of retinal diseases and conditions such as retinal detachment, diabetic retinopathy, epiretinal membrane and macular hole. This course will begin with a review of anatomy of the posterior segment of the eye, and the imaging techniques that are used to identify candidates for surgery. Video case presentations of surgical repairs will be shown. At the end of this course, the student will be able to list conditions that can be successfully repaired with vitreo-retinal surgery and identify common pre-operative findings in fundus and OCT images.
CEC OPS 1

SA-2-C Erie
Advanced Fundus Autofluorescence Imaging
Denise Cunningham, CRA, RBP, FOPS
Initially utilized as an adjunct to retinal photography and ocular angiography, fundus autofluorescence (FAF) has become an essential imaging modality in its own right. This **advanced** presentation will compare and contrast the two commercially available instruments used in FAF image capture, with an emphasis on the complementary attributes of the resultant images. Novel FAF imaging techniques, such as retinal pre-bleaching, multispectral imaging, and macular pigment mapping, will be introduced along with methods for obtaining standardized reproducible visual data. At the conclusion of this lecture, the student will be able to elaborate on the characteristics of images obtained from different instruments, describe several advanced imaging techniques and explain their application.
CEC OPS 1

SA-2-D Superior A/B
Advanced Fluorescein Angiography - Panel Discussion
Leslie Barresi, CRA, OCT-C - Moderator
This is an **intermediate to advanced** level discussion of challenges encountered in the angiographer's workday.
Students are encouraged to bring questions and issues they have encountered while performing fluorescein angiography for group discussion. We will be discussing tips and solutions for more advanced issues when doing angiography such as angiography on pediatric patients, dealing with unexpected complications, and solving technical glitches. This discussion will be led by a panel of ophthalmic imagers who are well versed in angiography for a variety of specialties and will be largely audience

driven. At the end of this course, students will be able to discuss ways to deal with various issues encountered in fluorescein angiography, from patient management to technical challenges.
CEC OPS 1

9:45 am – 11:45 am

SA-2-F-WS **Sheraton Ballroom 1**
Time Domain OCT Workshop
Carl Edouard Denis, CRA, OCT-C
This workshop is designed as an **introduction or an intermediate** level on the use of optical coherence tomography offering hands-on experience for those attending. Participants will have the opportunity to familiarize themselves with the various scan modes, their applications and some of the techniques needed to capture images with this instrument. Attendees with more experience will have the opportunity to study the OCT software in greater depth, perform, and discuss the value of the various scans available. How to customize scans for Clinical Trial protocols or individual practice use will be demonstrated. Upon completion of this course, beginning level participants should be able to perform basic techniques for OCT procedures, and identify some of the common controls for OCT operation. Intermediate level participants should be able to list five scan modes, cite examples of their application, and demonstrate how to customize scans. **To register for this workshop, you MUST also register for the Time Domain OCT lecture, SA-1-B**.
CEC OPS 2

SA-2-O-WS **Sheraton Ballroom 2**
Spectral Domain OCT Workshop
Jim Soque CRA, COA
This workshop is designed as an introduction to the use of Spectral Domain OCT (SD-OCT). All current SD-OCT manufacturers have been asked to participate in this hands-on workshop. **Students will be able to select the instrument they wish to gain experience on when they register for this course.** The participants will have the opportunity to familiarize themselves with the various hardware and software of these new imaging systems. Scan modes, their applications and some of the techniques needed to capture images with these instruments will be demonstrated. THIS WORKSHOP IS INTENDED FOR STUDENTS WITH LITTLE-TO-NO EXPERIENCE WITH THE SD-OCT. Upon completion of this course, participants should be able to perform basic techniques for SD-OCT procedures, and identify some of the common controls for SD-OCT operation. **To register for this workshop, you MUST also register for the Introduction to Spectral Domain (SD-OCT) lecture, SA-1-D.**
CEC OPS 2

11:00 am – 12:00 pm

SA-3-B **WSL** **Huron**
Introduction to Scanning Laser Ophthalmoscopy
Dirk-Uwe G. Bartsch, PhD
This lecture will describe the fundamentals of scanning laser ophthalmoscopy, including how images are made, system design, and image retrieval and storage. Various clinical and research applications of the technology will also be discussed. At the end of this course, the student should be able to describe the components of the SLO instruments and describe the application of this instrument. **This lecture is required if you wish to take the corresponding workshop, SA-4-E-WS.**
CEC OPS 1

SA-3-C **Erie**
Indocyanine Green Update: 2010
Scott Cousins, MD; Michael P. Kelly, CPT
This course will describe the latest techniques and applications of ICG angiography in the diagnosis and treatment of retinal diseases. The use of high speed video ICG-A will be discussed. The use of ICG-A to better understand and treat CNV will be shown, including the benefits of feeder vessel treatment. Upon completion of this course, the student should be able to describe common uses and basic techniques of ICG angiography.
CEC OPS 1

SA-3-D **WSL** **Superior A/B**
Clinical Applications of Anterior Segment OCT
Kenneth L. Cohen, MD; Sarah Moyer, CRA, OCT-C
Anterior Segment OCT's longer wave length of light allows deeper penetration of tissues, resulting in higher resolution of images in the anterior segment. This course will highlight current manufacturers of anterior segment OCTs while focusing on the Visante. It will address hardware, imaging technique and data interpretation. Clinical applications will be discussed for the following topics: contact lens fitting, DSEK, DALK, cataract surgery, corneal thickness, and more. At the conclusion of this course, students will be able to list several anterior segment imaging modalities and have a greater understanding of how they can be clinically helpful. **This lecture is required if you wish to take the corresponding workshop, SA-5-O-WS.**
CEC OPS 1

1:00 pm – 2:00 pm

SA-4-A **Missouri**
On Different Wavelengths: The Spectrum of Retinal Imaging
Timothy J. Bennett, CRA, OCT-C, FOPS
Modern retinal imaging incorporates a variety of monochromatic filters or lasers to maximize diagnostic information. By limiting the spectral range of the illuminating source, the visibility of various retinal structures can be enhanced and certain wavelengths also

excite fluorescence. This course will describe the wavelengths and filters used in scanning laser ophthalmoscopes (SLO) and fundus cameras for monochromatic imaging, angiography, and fundus autofluorescence. Differences between fundus camera techniques and the SLO will be presented. Upon completion of this course, the student should be able to describe the principles of fluorescence and monochromatic illumination, list commonly used wavelengths for retinal imaging, and describe their effect on visualization of fundus structures.
CEC OPS 1

SA-4-B WSL Huron
Goniography - Standard Techniques
Mark Maio, FOPS
Documenting the iridocorneal angle can be one of the most challenging yet rewarding tasks for the ophthalmic photographer. Success requires skill, effort and patient compliance to view the structures normally hidden from direct view. The pairing of the slitlamp and a mirrored gonio lens has been the mainstay of indirect angle imaging. This course will give an overview of the techniques of photographing the angle using the standard mirrored gonio lens. Lighting techniques, lens/camera positioning and patient management will be discussed using example images. At the completion of this course, the student should be able to define the concept of total internal reflection, identify the six key landmarks of the angle, and describe the correct positioning of the gonio lens on the eye to reveal the angle structures. **This lecture is required if you wish to take the corresponding workshop, SA-5-F-WS.**
CEC OPS 1

SA-4-C Erie
Pediatric Ophthalmic Imaging
Cynthia Vandenhoven, CRA;
Leslie MacKeen, BSc, OA, CRA
Requests for photographing children may be infrequent and some imagers may not know that if the approach is modified somewhat, the results can be as good as with adults. This course will cover the aspects of common pediatric imaging modalities, including fundus imaging, IVFA, Slit lamp, OCT, Corneal Topography, Ultrasound, and UBM. Discussion will also include hand-held or portable imaging systems applicable for on-location imaging such as the sedation unit, OR, NICU, and Wards locales. At the conclusion of this lecture, the student will be able to discuss the challenges of imaging children and describe a modified technique to facilitate good results.
CEC OPS 1

SA-4-D Superior A/B
Diabetic Retinopathy: The Big Picture
Rosalind Stevens, MD
The spectrum of clinically significant diabetic retinopathy is well known to ophthalmic photographers and comprises a major portion of their professional work. This presentation will review the diagnostic criteria and current management of diabetic retinopathy utilizing montage software to demonstrate the "big picture" of this global threat to vision and quality of life. At the end of this course, the students should be able to list the multiple retinal signs of diabetic retinopathy, describe how it is diagnosed, and discuss the usefulness of image montage in management of diabetic retinopathy.
CEC OPS 1

1:00 pm – 3:00 pm

SA-4-E-WS Sheraton Ballroom 3
Introduction to Scanning Laser Ophthalmoscopy Workshop
Dirk-Uwe G. Bartsch, PhD - Coordinator
This workshop will allow students to learn the operating principles and techniques of the SLO. The application of the Scanning Laser Ophthalmoscope to fluorescein angiography and ICG chorioangiography will be discussed. Students will perform optic nerve head analysis on each other Dilation is not required. At the end of this course, the student should be able to identify the controls of the SLO instrument and list the wavelengths used in the procedures. **To register for this workshop, you MUST also register for the workshop lecture, SA-3-B.**
CEC OPS 2

2:15 pm – 3:15 pm

SA-5-B Huron
Great Cases From My Garage!
Rosalind Stevens, MD
This lecture will present an interesting collection of ophthalmic images documenting a variety of eye diseases not commonly photographed in the United States. The opportunity to practice subspecialty retinal disease diagnosis & management for seven years at King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia, allowed Dr. Stevens to collect an interesting spectrum of ophthalmic imagery representing a variety of eye diseases not commonly photographed in the United States. This presentation will review a small portion of that collection. Retrospective film scanning and digital photomontage software will be used to reconstruct the patients' fundi. At the end of this lecture, participants will be able to list three rare ophthalmic conditions and discuss their medical implications as well as their special photographic needs.
CEC OPS 1

SA-5-C Erie
Advances in Ultra Wide-Field Fundus Imaging
Ivan Suner, MD; Michael P. Kelly, CPT
Using Optos SLO for ultra wide field imaging will be discussed. Examples of corresponding color fundus images and angiographic images will be shown. Upon completion of this course, the student should be able to discuss the history of wide angle photography and describe the correlation between color and angiographic wide angle images in disease management.
CEC OPS 1

SA-5-D **Superior A/B**

Imaging in Clinical Trials for AMD

Ronald Danis, MD

This presentation will focus upon current requirements for imaging in clinical trials of wet and dry AMD, recent advances and controversies, and FDA guidance. The use of autofluorescence imaging, spectral domain OCT, and ICG angiography will be discussed and the role of automated digital lesion detection and measurement software explored. Upon completion of this course, students should be able to discuss the current requirements for autofluorescence imaging, spectral domain OCT, and ICG angiography in clinical trials of wet and dry AMD and list recent advances and controversies.

CEC OPS 1

2:15 pm – 4:15 pm

SA-5-F-WS **Sheraton Ballroom 1**

Goniographic Workshop (Slit Lamp)

Kenneth Boyd, BS, CRA

This workshop is designed to help students refine the techniques and lighting skills needed for photographing the anterior segment with the photo slit lamp. Model eyes will be used. Students will practice with a variety of slit lamp instruments, and gonio lenses. Instructors will provide practical instruction concentrating on troubleshooting and choosing the best tools and techniques for lighting and documenting pathology of the anterior segment and angle. At the end of this course, the student should be able to manipulate the basic controls of the slit lamp camera, and list the techniques for basic capture of slit lamp and gonio images. **To register for this workshop, you MUST also register for lecture course SA-4-B.**

CEC OPS 2

SA-5-O-WS **Sheraton Ballroom 2**

Clinical Applications of Anterior Segment OCT Workshop

Sarah Moyer, CRA, OCT-C

This workshop is designed as an introduction to the use of Anterior Segment OCT. All current TD and SD-OCT manufacturers have been asked to participate in this hands-on workshop. **Students will rotate through all of the different OCT instruments.** The participants will have the opportunity to familiarize themselves with the various hardware and software of these new imaging systems. Scan modes, their applications and some of the techniques needed to capture images with these instruments will be demonstrated. THIS WORKSHOP IS INTENDED FOR STUDENTS WITH LITTLE-TO-NO-EXPERIENCE WITH ANTERIOR SEGMENT OCT. Upon completion of this course, participants should be able to perform basic techniques for Anterior Segment OCT, procedures, and identify some of the common controls from Anterior Segment OCT operation.

To register for this workshop, you MUST also register for lecture course SA-3-D.

CEC OPS 2

3:30 pm - 4:30 pm

SA-6-A **Missouri**

Pre-and Post Injection Techniques: Hemodynamic Flow of Dye

Kirsten Locke, RN, CRA;

Paul Paquette, CRA, COMT, FOPS

Prerequisites: **Basic knowledge of the angiographic procedures performed in ophthalmic photography**. This lecture will cover the description of the dye pathway from injection to excretion, recognition of some common side effects and adverse reactions and their associated emergency procedures, as well as preparation of angiographic dyes and basic venipuncture technique. At the end of this course, the students should be able to prepare an IV tray for angiographic procedures, describe basic venipuncture techniques, explain the hemodynamics of the circulatory system, and list common side effects including first aid procedures.

CEC OPS 1

SA-6-B **Huron**

Which Image Format Should I Choose?

Richard Hackel, CRA, FOPS

Perhaps you've noticed the many different format choices available for storing the photographic image. While there are many to choose from, this course will answer these questions: Why choose one format over another? Why do publishers and clinical trial sites have a preference? What are their advantages and disadvantages, and which ones make little or no difference? What is a compressed format, and when is it okay to use it? There will also be an explanation of the camera raw format, and how it is actually the starting point for all camera formats. By the end of the course, the student should be able to explain the different format types, what they are for, and how and when to use them.

CEC OPS 1

SA-6-C **Erie**

Dry AMD Update: OCT, FAF, and Potential Therapies

Vivek Chaturvedi, MD

This lecture will look at the role newer generation OCT machines have in the diagnosis and potential treatment of dry AMD. The basics of autofluorescence and its role in dry AMD will also be explained. Research on treatment for dry AMD will be highlighted. At the end of this course, students should be able to identify how newer generation OCT machines and autofluorescence have influenced diagnosis and treatment of dry AMD.

CEC OPS 1

SA-6-D **Superior A/B**

OCT - Pearls and Pitfalls

Glenn Jaffe, MD

This lecture will include a discussion of OCT in clinical use and in clinical trials, how to recognize and avoid artifacts with time domain and spectral domain OCT, and newer uses of OCT such as anterior segment OCT. At the conclusion of this course, the student will be able to

discuss the use of OCT in various settings. They will have an enhanced ability to analyze the images for artifacts and other qualities.
CEC OPS 1

SUNDAY, OCTOBER 17TH

8:30 am - 9:30 am

SU-1-A WSL Missouri
Advanced Stereo Fundus Photography
Pamela J. Vargo, CRA; Dennis W. Thayer
This **advanced** course is a detailed overview of the process of photographing the seven stereo diabetic fields and seven stereo modified diabetic fields. Necessary equipment, materials, field definition, and photographic techniques will be reviewed. Emphasis will be given to fine tuning techniques such as field definition, stereo effect, and focus/clarity. Many insightful and helpful tips will also be revealed. At the end of this course, the student should be able to identify the seven standard field numbers and identify their orientation to the optic nerve. This course is NOT for beginners but only intended for photographers with a minimum of one (1) year of experience shooting the EDTRS seven stereo fields. **This lecture is MANDATORY if you wish to take the corresponding workshop, SU-2-E-WS.**
CEC OPS 1

SU-1-B WSL Huron
Introduction to Spectral Domain OCT
Dennis Orlock, CRA, FOPS
Spectral domain (SD-OCT), also known as Fourier or Frequency Domain Optical Coherence Tomography (FD-OCT), is the next generation of the current standard, Time Domain OCT (TD-OCT) (Zeiss Stratus). This introductory course will discuss the differences between these two systems. Current SD-OCT systems that are commercially available will be discussed. Fundamentals in the operation of the instrument and clinical examples from the systems will be presented. Tips and techniques in obtaining diagnostic images will be shown. Common scan modes and their clinical applications will be demonstrated. Comparative images of SD-OCT, TD-OCT and traditional ophthalmic photographs will be shown. Upon completion of this course, participants should be able to list basic techniques for SD-OCT procedures, and identify some of the common differences between SD-OCT and TD-OCT. **This lecture is required if you wish to take the corresponding Introduction to SD-OCT workshop, SU-2-O-WS.**
CEC OPS 1

SU-1-C Erie
Retinal Anatomy - Up Close and Personal
Ron Gallemore, MD, PhD; Esmeralda Gallemore, COA
This course is a detailed examination of the retinal anatomy and physiology as well as a brief overview of the visual pathway. Various cell types within the retina will be identified and their function explained. Electron Microscope and OCT images will be used to illustrate the retinal anatomy in healthy and diseased cases. A segment of the course will address the practical aspects of retinal anatomy and how this knowledge can be used to enhance the quality and utility of the fundus photos, fluorescein angiograms, ICG angiograms, auto-fluorescence images and OCT images we obtain. At the end of this lecture, the student will be able to name the retinal cell layers and outline in general terms the physiology of vision. He/She will also be able to discuss the characteristics of a normal retina as represented on various imaging modalities.
CEC OPS 1

SU-1-D Superior A/B
Digital Color Management
Leslie Barresi, CRA, OCT-C
Maintaining consistency between digital images from the original image to a scanner, monitor or print is one of the greatest challenges in current ophthalmic photography settings. In this class concepts of color management will be introduced, and discussion will include application, management, and output issues related to ophthalmic image consistency. Color management problems particular to ophthalmic photography will be discussed. At the end of the course, the student should be able to identify problems in color management practice and name potential solutions for those issues.
CEC OPS 1

9:45 am - 10:45 am

SU-2-A Missouri
Anatomy and Physiology of the Anterior Segment
Mark Mifflin, MD
This **basic** lecture will describe the anatomy and physiology of the ocular anterior segment. Emphasis will be placed on the relationship between anatomy, physiology, and the importance of correct documentation of normal and abnormal findings. At the end of this course, students should be able to correctly identify the structures of the anterior segment, and describe the normal drainage architecture and patterns of the anterior segment angle.
CEC OPS 1

SU-2-B Huron
I Can't Hear You in the Dark: Caring for Patients with Hearing Loss
Laura Savage, CRA, COMT
This course will discuss the challenges of photographing and communicating with people who are hearing impaired or deaf and provide tips on how to improve communication in the ophthalmic setting. The physical and emotional challenges of the patient will be discussed as well as tips for communicating in the dark, during patient care and testing, as well as working with an interpreter. Medical/legal communication issues will also be discussed. At the end of the course, the attendee will be able to identify some of the communication, physical,

emotional and medical/legal issues of those with hearing challenges and will be able to describe ways to enhance effective communication.
CEC OPS 1

SU-2-C **Erie**
Novel Applications of Existing Technology
Leslie MacKeen, BSc, OA, CRA;
Richard Ornberg, MD, PhD
In this presentation, two cases of novel application of an existing device will be shown. The instrumentation and alternate application will be demonstrated. The Retcam is an instrument developed to image the retina of infants and children. If properly used it can, however, be utilized to image the angle as well. Leslie MacKeen will discuss and illustrate the technique for this application. Richard Ornberg, MD, PhD of Alcon will describe how he uses a slit lamp system to quantify the severity of dry eye disease by imaging corneal fluorescein staining. At the conclusion of this presentation, the student will be able to discuss some innovative uses of existing technology. They will have a broader perspective of the many ways imaging can be employed to obtain diagnostic information.
CEC OPS 1

SU-2-D **Superior A/B**
Imaging ROP Babies
Ditte Hess, CRA, FOPS
This lecture will describe a method for conducting ROP screening. Emphasis will be placed on understanding the progression of the disease, how quickly it happens, and how to best document the pathology photographically, both before and after treatment. Remote screening will also be discussed. At the conclusion of this lecture, the attendees will be able to list the different stages of ROP and discuss how to best document ROP changes, as well as how to manage imaging these tiny and very fragile babies.
CEC OPS 1

9:45 am - 11:45 am

SU-2-O-WS **Sheraton Ballroom 2**
Spectral Domain OCT Workshop
Jim Soque, CRA, COA
This workshop is designed as an introduction to the use of Spectral Domain OCT (SD-OCT). All current SD-OCT manufacturers have been asked to participate in this hands-on workshop. **Students will be able to select the instrument they wish to gain experience on when they register for this course.** The participants will have the opportunity to familiarize themselves with the various hardware and software of these new imaging systems. Scan modes, their applications and some of the techniques needed to capture images with these instruments will be demonstrated. THIS WORKSHOP IS INTENDED FOR STUDENTS WITH LITTLE-TO-NO EXPERIENCE WITH THE SD-OCT. Upon completion of this course, participants should be able to perform basic techniques for SD-OCT procedures, and identify some of the common controls for SD-OCT operation. **To register for this workshop, you MUST also register for the Introduction to Spectral Domain (SD-OCT) lecture, SA-1-D or SU-1-B.**
CEC OPS 2

SU-2-E-WS **Sheraton Ballroom 3**
Advanced Stereo Fundus Photography Workshop
Pamela J. Vargo, CRA
Prerequisite: This workshop is <u>NOT</u> for beginners. Students must have a minimum of one (1) year experience shooting the seven standard stereo diabetic fields.
This **advanced** course will provide detailed instruction in the process of photographing the seven diabetic fields in stereo. Anatomy of the fundus camera, trouble-shooting, and field definition will be discussed. Clinical Trial Protocols for fundus photography and the patient encounter will be reviewed. Various fundus cameras will be available for students to have hands-on practice under the supervision of experienced instructors. Registrants in this workshop should be prepared to have one of their eyes dilated and must sign a consent form. At the end of this course, the student should be able to list the steps required to make an acceptable standard field portfolio. **To register for this workshop, you MUST also register for the corresponding workshop lecture, SU-1-A.**
CEC OPS 2

11:00 am - 12:00 pm

SU-3-A **WSL** **Missouri**
Master OCT
Debra Brown, CRA
This course will cover **advanced** imaging techniques with Spectral Domain OCT. Achieving the optimal scan for various pathology of both central and peripheral retina will be the focus of the course. Anatomy of the retina and challenging OCT imaging will be discussed. Descriptive interpretation will be utilized and class participation is encouraged. At the conclusion of this course, the participants will be able to understand how to achieve the best possible OCT for various pathology of both the central and peripheral retina.
CEC OPS 1

SU-3-B **WSL** **Huron**
Wide Angle Imaging
Amanda Bye, CRA; Leslie MacKeen, BSc, OA, CRA;
Amy Mirafzal
This lecture will introduce three instruments that can be used to image the (far) periphery of the eye. The Heidelberg Spectralis utilizing a handheld Staurenghi lens, the Optos Ultrawide Imaging System, and the Retcam. The technology will be introduced by a representative of each company and will elaborate on the technology identifying key applications and controls of the instrumentation. At the conclusion of this lecture, the students will be able to discuss situations in which each of these technologies

would be used, as well as discuss some of the advantages and limitations of each instrument. The student should also be able to list some key considerations in operating the equipment.
CEC OPS 1

SU-3-C **Erie**
Adaptive Optics in Ophthalmic Imaging
Srinivas Sadda, MD
Adaptive Optics (AO) has been combined with a variety of ophthalmic instruments over the last few years to provide cellular-level, in-vivo images of the eye. The use of new generation deformable mirrors in these instruments has recently been demonstrated to increase imaging capability. This technology enables the instrument to visualize nerve fibers, photoreceptors, and flow of white blood cells in retinal capillaries. This course will review the technical basics of AO and will review present and future applications. At the end of the course, the student should be able to discuss the basic concepts of adaptive optics and how the technology can be used to improve ophthalmic imaging.
CEC OPS 1

SU-3-D **Superior A/B**
Challenging Retina Cases
Kourous A. Rezaei, MD
Prerequisites: Students should be experienced in ophthalmic anatomy and imaging of the posterior segment. A basic understanding of common diseases and disorders of the posterior segment is recommended.
This **advanced** course will provide an overview of rare and challenging cases in the field of retina. It will include color fundus photography, fluorescein angiography, and ocular coherent tomography. Clinical pearls and treatment options will be discussed. At the end of this one hour presentation, the student should have increased their understanding of diagnostic features and treatment options for some of the most challenging and rare retinal diseases.
CEC OPS 1

12:00 pm – 1:00 pm

"Why Certify?" **Parlor A**
See description on page 7.

12:30 pm - 2:00 pm

SU-4-F-WS **Sheraton Ballroom 1**
Wide Angle Imaging Workshop
Amanda Bye, CRA; Leslie MacKeen, BSc, OA, CRA; Amy Mirafzal
This workshop is designed as an introduction to the use of Wide Angle Fundus Imaging. All current manufacturers with wide angle fundus capabilities have been asked to participate in this hands-on workshop. Students will rotate through all of the different wide angle fundus imaging instruments. The participants will have the opportunity to familiarize themselves with the various hardware and software of these imaging systems. Imaging techniques for wide field imaging will be demonstrated for each device. THIS WORKSHOP IS INTENDED FOR STUDENTS WITH LITTLE-TO-NO EXPERIENCE WITH WIDE ANGLE IMAGING. A BASIC UNDERSTANDING OF FUNDUS PHOTOGRAPHY IS REQUIRED. Upon completion of this course, participants should be able to perform basic techniques for Wide Angle Imaging on the different instruments available and identify some of the common controls for Wide Angle Imaging operation. **To register for this workshop you MUST also register for lecture course SU-3-B.**
CEC OPS 1.5

SU-4-O-WS **Sheraton Ballroom 2**
Master SD OCT Workshop
Debra Brown, COT, CRA
Prerequisite: This workshop is NOT for beginners. Students must have a minimum of two (2) years' experience imaging with an SD OCT system. This workshop is designed as an expansion on the use of Spectral Domain OCT (SD-OCT). All current SD-OCT manufacturers have been asked to participate in this hands-on workshop. Scan modes, their applications and some of the advanced techniques needed to capture images with these instruments will be demonstrated. Upon completion of this course, participants should be able to perform advanced SD-OCT procedures, and identify some of the less commonly-used controls for SD-OCT operation. **To register for this workshop, you MUST also register for the corresponding lecture, SU-3-A**
CEC OPS 1.5

1:00 pm - 2:00 pm

SU-4-A **Missouri**
Certification: Method or Madness
Laura Savage, CRA, COMT
This course will review the various certifications available in ophthalmology and discuss the purpose and benefits of professional certification. The requirements and steps of applying for certification will be discussed. How to obtain the various resources needed for preparation and how to organize those study resources as well as time management will be covered. The course will include practical tips on taking multiple choice and practical certification exams. Requirements for recertification will be reviewed. After taking this course, a student will be able to identify various certifications in the ophthalmic field, describe the purpose and benefits of certification, list various requirements of certification, locate and utilize various resources for exam preparation, and design a study plan to organize and prepare for certification exams.
CEC OPS 1

SU-4-B WSL Huron
Introduction to Fundus Photography
Kirsten Locke, CRA, RN
Struggling to improve your fundus photography? Think it's too difficult? Think again. This course will provide a basic overview of the process of photographing the ocular fundus as a precursor to the comprehensive workshop. Anatomy of the fundus camera, trouble-shooting, and a guide to color fundus photography will be discussed. Basic protocols for fundus photography and the patient encounter will be reviewed. At the end of this course, the student should be able to identify the anatomy of the fundus camera, and list the protocols for basic capture of images. **This lecture is required if you wish to take the corresponding workshop, SU-5-E-WS.**
CEC OPS 1

SU-4-C WSL Erie
Myopic Degeneration
Dean Hainsworth, MD
This lecture will describe the patho-physiology as well as the visual consequences of myopic degeneration. Special consideration will be given to the role of ophthalmic imaging in the diagnosis and treatment of myopic degeneration. At the conclusion of this lecture, the student will be able to outline the signs of myopic degeneration as well as describe how ophthalmic imaging assists in the management of this condition.
CEC OPS 1

SU-4-D Superior A/B
Maximizing Quality in Ophthalmic Digital Imaging
Timothy Bennett, CRA, FOPS, OCT-C
Despite a history of over twenty years of experience with digital technology, there is a common perception that ophthalmic digital images, especially color fundus photographs, are often disappointing and inconsistent in quality. This course will describe strategies and techniques for maximizing digital image quality for diagnosis, documentation, publication and research. Discussion will include resolution, compression, gain, color management, image processing tools, and techniques for precise exposure control for ophthalmic images. Upon the completion of this course, the student should be able to list techniques for controlling exposure, describe image processing tools used in ophthalmic imaging, and discuss methods to enhance and preserve diagnostic information in ophthalmic imaging.
CEC OPS 1

2:15 pm – 3:45 pm

SU-5-A Missouri
Rare Case Symposium
Michael P. Kelly, CPT - Moderator
The ability to produce photographic documentation of rare diseases is facilitated by knowledge of both the ocular manifestations and the photographic techniques. This symposium will feature several experienced ophthalmic photographers presenting rare or uncommon disorders of the eye. Through case presentations, understanding of the particular disease as well as the appropriate approach to photo-documentation will be gained. At the end of this course, the student should be able to list at least five rare ocular disorders seen in ophthalmology practices, and identify the steps for better image capture of these disorders.
CEC OPS 1.5

SU-5-B Huron
Clinical Features of Retinal Disease
David A. Quillen, MD
Fundus photography is commonly used to document clinical features of retinal disease. This course will provide an overview of common and distinctive retinal features that photographers should recognize in order to document diseases effectively. At the conclusion of this course, the student should be able to identify clinical features of retinal disease and develop photographic plans to capture specific retinal pathology.
CEC OPS 1.5

SU-5-C Erie
B-Scan Interpretation
Rhonda Waldron, MMSc, COMT, CRA
Prerequisite: Knowledge of ocular anatomy and common retinal and choroidal pathologies.
This **intermediate to advanced** lecture presents various retinal and choroidal entities, showing comparative examples of B-scan and fundus photo images. Emphasis will be put on correlating the information depicted in these differing methods of imaging. Various other aspects of imaging for retinal disorders as they relate to interpretation of the images will also be addressed. At the conclusion of this lecture, students will be able to relate photographic images to sonographic displays. They will be able to discuss differences in appearance of the subject matter in each modality and will be able to orient themselves to the displayed ultrasound image.
CEC OPS 1.5

SU-5-D Superior A/B
Descriptive Interpretation of OCT
Denice Barsness, CRA, COMT, ROUB, FOPS;
Paula Morris, CRA, FOPS
This course entails a discussion and debate on OCT analysis and interpretation. OCT anatomical landmarks and description will be featured, and common pathology will be presented. Expect an interesting discussion and be prepared to contribute - it will be a "Grand Rounds" academic style for **intermediate to advanced** level participants. At the end of this lecture, the students should have a better understanding of the anatomical features of an OCT scan and have gained an appropriate descriptive vocabulary.
CEC OPS 1.5

SU-5-E-WS **Sheraton Ballroom 3**
Introduction to Fundus Photography Workshop
LeRoy 'Jud' Judkins, COA, OCT-C
This workshop is designed for the beginner with little or no experience in fundus photography. Various fundus cameras will be available for hands-on practice supervised by experienced ophthalmic photographers. Instructors will teach basic camera techniques and problem solving. Registrants in this workshop should be prepared to have one of their eyes dilated and must sign a consent form. At the end of this course, the student should be able to manipulate the basic controls of the fundus camera and list the techniques for basic capture of images. **To register for this workshop, you MUST also register for lecture course SU-4-B**
CEC OPS 1.5

4:00 pm – 6:00 pm

OPS Membership Business Meeting
Open to All OPS Members
Erie Room

MONDAY, OCTOBER 18TH

8:30 am – 10:00 am

MO-1-A **WSL** **Missouri**
Diagnostic B-Scan: Standardized Exam Techniques for Ophthalmic Imagers
Gerald Bousson, COT, CRA, RDMS
This course will demonstrate standardized probe positions and the associated nomenclature. Emphasis will be placed on establishing a systematic approach to examining the ocular structures in order to cover all essential views. Identification of ocular structures with respect to probe position and as they relate to photographic positions will be demonstrated. The effect of movement will be discussed. At the end of this course, the student will be able to describe the techniques necessary to perform a B-scan, list probe positions, and identify ocular structures relevant to B-scans.
OPS CEC 1.5

MO-1-B **Huron**
Making Friends with the Reading Center; Photography and OCT
Robert Curtin, CRA, FOPS;
Pamela J. Vargo, CRA - Moderators
The role of the ophthalmic photographer in clinical trials is to provide image data, and the role of the Reading Center is to collect and harvest that data. Reading Centers must operate under strict scientific and regulatory guidelines. They, in turn, require the photographers to adhere to strict protocols when performing imaging studies. This course will look at two Reading Centers, discuss what they have in common, and what they do differently. Students will learn the reasons behind the photographic procedures. The need for certification and documentation will be demonstrated. Students will also learn about some frequently encountered imaging problems and their solutions. Upon completion of this course, the student should be able to define the role of Reading Centers, what they require for certification and documentation, and discuss possible problems and their solutions.
CEC OPS 1.5

MO-1-C **Erie**
Application of Descriptive Interpretation of Fluorescein Angiography
Paula F. Morris, CRA, FOPS
This is a course for **basic to intermediate** imagers that introduces the terminology used to describe circulatory patterns in the eye as shown by fluorescein angiography. Fluorescein angiography is the cornerstone of ophthalmic photography in that 87% of ophthalmic imagers perform fluorescein angiography often or routinely. Knowledge of the circulation patterns in retinal and choroidal disease is essential to producing high quality studies which will assist the physician in selecting treatment. Interpretation of angiographic studies using descriptive terms is a fundamental skill which increases understanding of normal and abnormal patterns and the circulation dynamics causing them. At the end of this course, students will be able to explain the difference between hypo- and hyper-fluorescence, and identify abnormal patterns of fluorescence.
CEC OPS 1.5

MO-1-D **Superior A/B**
EMR's and Image Management Solutions - A Panel Overview
Joe Warnicki, FOPS - Moderator
An overview of many of the commercially available image integration systems will be discussed by users. Included in the presentations will be day-to-day operations, system installation, and ability to interface with various ophthalmic equipment. Current imaging and EMR standards will also be presented including DICOM, HL-7, and CCOW. Upon completion of this course, students should be able to discuss how image integration systems work and understand current imaging and EMR standards.
CEC OPS 1.5

10:15 am – 11:45 am

MO-2-A **Missouri**
SD-OCT Unleashed! An Introduction to Hand-held OCT Imaging (WSL & WS)
Cynthia VandenHoven, CRA
The availability of a portable hand-held SD-OCT enables the assessment of vitreoretinal and corneal changes in the supine, pediatric subject and those not able to reach the chin rest of traditional OCT systems. Technical overview will include: Bioptigen software and equipment settings, scanning protocols and imaging artifacts and remedies common with hand-held OCT scanning. Patient management techniques related to imaging supine awake

patients and those under sedation or under anesthesia will also be discussed. At the end of this lecture and workshop, students should be able to describe the uses for a hand-held OCT, have a hands-on basic understanding of the instrument and how to scan a supine patient.
CEC OPS 1.5

MO-2-B Huron
Descriptive Interpretation of Fluorescein Conference
Paul Bernstein, MD; Paula F. Morris, CRA, FOPS
This course is a complement/continuation of the "Application of Descriptive Interpretation of Fluorescein" lecture, taking the knowledge of descriptive terms learned there, and applying them to interpret actual angiographic studies. After a short review of the circulation dynamics of fluorescein angiography, this course will feature a descriptive interpretation session (a photographers' version of fluorescein conference) where audience participation will be anticipated and encouraged. Students will be mentored through the process of angiogram interpretation using descriptive terms. Coaching on the "How To" of participation in the session will be provided. At the end of this course, students should be able to list the circulation phases of the retina and choroid, define and give examples of hypofluorescence, hyperfluorescence, and interpret an angiographic study using descriptive terms.
CEC OPS 1.5

MO-2-C Erie
Adobe® Photoshop® CS4 Extended, Adobe® Lightroom 2, and Adobe® Bridge: An Overview
BASIC LEVEL
Mark Maio, FOPS; Jim DiVitale
This course is sponsored by Adobe, Inc. From diagnostic workflow, to research, to communication of findings in journal articles, posters and presentations, digital images play a fundamental role in all ophthalmic subspecialties. Adobe® Photoshop® CS4 Extended, Adobe® Bridge and Adobe® Lightroom®2 software offer new, powerful tools for documenting and analyzing information and visualizing potential outcomes. This course will provide a general overview of these three software programs and their unique features. Attendees will leave with a better understanding of how these programs can work together to provide ophthalmic imaging users a complete digital imaging workflow.
CEC OPS 1.5

MO-2-D Superior A/B
Dual Scanning OCT-ICG Strategies for Exudative ARMD Treatment
Mark Nelson, MD; Anda Krist, COT, CRA
When ICG and OCT imaging are evaluated simultaneously they give valuable information for treating exudative ARMD. This analysis reveals how subretinal neovascularization interacts with the choroid, Bruch's membrane, RPE and subretinal space, as well as analyses considerations for the dual scanning technique. It also discusses the practical applications from the imager's perspective. At the conclusion of this course, the student should be able to describe the disease process of exudative ARMD and outline how the dual imaging strategy contributes to the disease management, as well as describe some of the practical considerations for this technique.
CEC OPS 1.5

MO-2-F-WS Sheraton Ballroom 1
Diagnostic B-Scan: Standardized Exam Techniques Hands-On Workshop
Gerald Bousson, CRA, COT, RDMS
Participants in this workshop will practice the standardized B-scan screening exam techniques and probe positions that were discussed and demonstrated in the pre-requisite lecture. Upon completion of this workshop, participants will be able to demonstrate the use of the standardized probe position and screening protocol. **To register for this workshop you MUST also register for lecture course MO-1-A.**
CEC OPS 1.5

12:30 pm – 1:30 pm

MO-3-A WSL Missouri
Introduction to Fluorescein Angiography
Jennifer Turano, CRA
This lecture will provide the basic information needed to participate in the fluorescein angiography workshop. Filters, imaging techniques, and fluorescein angiography sequencing will be discussed. Upon completion of this course, students should be able to outline the sequence of a fluorescein angiogram and proper camera management. **This lecture is required if you wish to take the corresponding workshop, MO-4-E-WS.**
CEC OPS 1

MO-3-C Erie
Adobe® Lightroom 2
Mark Maio, FOPS; Jim DiVitale
This course is sponsored by Adobe, Inc. From diagnostic workflow, to research, to communication of findings in journal articles, posters and presentations, digital images play a fundamental role in all ophthalmic subspecialties. **Adobe® Lightroom®2** software is used to streamline your digital photography work-flow. Use it to sort and find the photos you want faster, target specific images for more precise adjustments and use the export functions to make prints or publish to the web. At the end of this course, students should be able to describe four major features that can be used to prepare ophthalmic images for publication or use in an academic presentation.
CEC OPS 1

MO-3-D Superior A/B
Crash Cart for the Ophthalmic Photographer
Michael DellaVecchia, MD
This lecture will review the classification and frequency of adverse reactions following the intravenous injection of sodium fluorescein and indocyanine green dyes. Recognition of adverse reactions following angiography and the role ophthalmic photographers play in the

management of the critically ill patient will be discussed. Participation by the attendees is encouraged. An overview of the essential contents of a crash cart will be presented. At the end of this course, the student should be able to identify the frequency and stages of adverse reactions following ophthalmic photography procedures.
CEC OPS 1

12:30 pm – 2:00 pm

MO-3-B WSL Huron
Slit Lamp Photography
James Gilman, CRA
The slit lamp is the basic tool used in ophthalmology for the examination of the anterior segment. As ophthalmic imagers, we are called upon to use the slit lamp in conjunction with various photographic recording devices to document anterior segment pathology. This course will cover the basics of imaging using the slit lamp, with an emphasis on learning basic illumination techniques and how they can reveal specific structures of the anterior segment. How to use these illumination techniques to best illustrate the clinically significant aspects of various anterior segment pathology will be emphasized. Upon completion of the course, the student should be able to describe the techniques used in slit lamp photography and identify the illumination techniques used for the examination and documentation of the anterior segment. **This lecture is required if you wish to take the corresponding workshop, MO-4-F-WS.**
CEC OPS 1.5

1:45 pm – 2:45 pm

MO-4-A Missouri
Ocular Emergencies
Michael DellaVecchia, MD, PhD
Vision is a human's most important sense and injuries to the eyes can permanently change a person's way of life. This course will discuss the most common ocular emergencies and what types of photography or documentation is necessary and useful. It will contain photographs of eye injuries that will definitely leave a lasting impression! More importantly, the course will discuss the value of preventative measures and how to recognize those situations when quick action is most beneficial. At the conclusion of this course, the student should be able to recognize common ocular emergencies, list preventative measures, and describe the photographic documentation that is most appropriate.
CEC OPS 1

MO-4-C Erie
Adobe® Bridge CS5 for Ophthalmic Photography
Mark Maio, FOPS; Jim DiVitale
This course is sponsored by Adobe, Inc. From diagnostic workflow, to research, to communication of findings in journal articles, posters and presentations, digital images play a fundamental role in all ophthalmic subspecialties. **Adobe® Bridge CS5** software is a media management system that provides access to all your digital files. At the end of this course, students should be able to describe four major features that can be used to prepare ophthalmic images for publication or use in an academic presentation.
CEC OPS 1

MO-4-D Superior A/B
Anterior Segment Fluorescein and ICG Angiography: Technique, Application and Beauty
Ethan Priel, FOPS
This course will present an overview of the angiographic imaging techniques used in order to gain a broader understanding of the human iris in health and disease. These imaging modalities are used to document and quantify changes in the anterior segment, highlighting neo-vascularization, changes in iris perfusion, changes following trauma and surgery and additional entities involving the anterior segment. Emphasis will be placed on understanding the differences between fundus and iris angiographies - both technically and medically, as well as the pros and cons of the imaging devises available for such procedures. Upon completion of this course, the attendee should be able to describe the principles of acquiring anterior segment angiographies, compare and evaluate information obtained from the different imaging devices, list common ocular anterior segment structures and pathologic findings demonstrated during the course, and describe the use of the instrumentation to obtain the images discussed in the course.
CEC OPS 1

1:45 pm - 3:45 pm

MO-4-E-WS Sheraton Ballroom 3
Introduction to Fluorescein Angiography Workshop
Paul Paquette, CRA, COMT, FOPS
This workshop is designed for the photographer who wants to learn the techniques of fluorescein angiography. Equipment, materials and instructors will be available to help the students perform a "mock" angiogram. A step-by-step sequence of events will be stressed. Registrants in this workshop should be prepared to have one eye dilated and must sign a consent form. At the end of this course, the student will be able to identify the equipment and materials needed for fluorescein angiography and describe the protocol and sequencing. **To register for this workshop you MUST also register for lecture course MO-3-A.**
CEC OPS 2

2:15 pm – 3:45 pm

MO-4-F-WS Sheraton Ballroom 1
Slit Lamp Photography Workshop
James Gilman, CRA
This workshop is designed to help students refine the techniques and lighting skills needed for photographing the anterior segment with the photo slit lamp. Students will

practice with a variety of slit lamp instruments. Instructors will provide practical instruction concentrating on troubleshooting and choosing the best lighting techniques. At the end of this course, the student should be able to manipulate the basic controls of the slit lamp camera, and list the techniques for basic capture of images. **To register for this workshop, you MUST also register for lecture course MO-3-B.**
CEC OPS 1.5

3:00 pm – 4:00 pm

MO-5-A **Missouri**
Digital Image Compression: Issues and Solutions
Larry D. Hubbard, MAT; Dennis W. Thayer
Advanced ophthalmic imaging systems often produce gigantic files - which must then be stored and perhaps transferred. Beyond the modest gains of lossless compression, how can we use "lossy compression" safely and defensibly? Which compression levels might be "visually lossless", and which "diagnostically lossless"? How are color, fluorescein, red-free, and OCT images different in their compression behavior? What happens when we compress an image more than once? In this course we aim to compress all of these topics into one session. At the end of this course, students should be able to discuss image compression and how it effects the images they work with daily.
CEC OPS 1

MO-5-B **Huron**
Survival Spanish for Ophthalmic Photographers
Marcela Hickey, CRA
This course is for the English-speaking ophthalmic photographer who occasionally has non-English speaking patients. Key phrases will be taught in Spanish to enable the photographer to manage the patient at the fundus camera or slit lamp and help the patient understand the process of having an eye photographed, thereby increasing patient cooperation. At the end of this course, the student should be able to communicate common phrases that will help with photographic procedures.
CEC OPS 1

3:00 pm – 5:00 pm

MO-5-C **Erie**
Adobe® Photoshop® CS5 Extended for Ophthalmic Photography
Mark Maio, FOPS; Jim DiVitale
This course is sponsored by Adobe, Inc. From diagnostic workflow, to research, to communication of findings in journal articles, posters and presentations, digital images play a fundamental role in all ophthalmic subspecialties. Some of the features you will see demonstrated include: nondestructive editing, the use of meta data, measurement and analysis, DICOM support and the ability to quickly create an animation with a series of images and export it to a wide variety of movie formats. At the end of this course, students should be able to describe four major features that can be used to prepare ophthalmic images for publication or use in an academic presentation.
CEC OPS 2

4:15 pm – 5:15 pm

MO-6-A **Missouri**
Retinal Surgical Videos
Calvin Mein, MD
Photographers and technicians are often asked to image patients who are about to undergo a retinal surgery or who are recovering from one. Understanding the intervention rounds out the ophthalmic photographer's or technician's understanding of the pathology and its management. This course will present videos of retinal surgery. Cases include vitrectomy for retinal detachment repair, vitrectomy and McCannel sutures for repair of posteriorly dislocated IOLS and other interesting surgical cases. The student will observe through video demonstrations the complex microsurgical manipulations used in posterior eye surgery. At the end of this course, students will be able to list several retinal surgical procedures and describe in general terms how they are performed.
CEC OPS 1

MO-6-B **Huron**
The Bionic Eye: Imaging Challenges
Kirsten Locke, CRA, RN; James Gilman, CRA
With emerging new technologies, many different possibilities are being explored to attempt restoring vision or enhancing vision still available. The electronic chip implant and intra-ocular telescope are just a few variations under investigation. Photographic documentation of these pioneering patients is vital but due to the very nature of the research possess very special challenges. This lecture will offer insights and tips from experienced photographers on how to image this type of patient using a fundus camera, OCT, slit-lamp and specular photomicroscope. At the conclusion of this course, the students should have a better understanding of current bionic research and be able to describe the special techniques necessary when imaging patients with intra-ocular devices.
CEC OPS 1

MO-6-D **Superior A/B**
FAF Primer
Ethan Priel, FOPS
Fundus Autofluorescence (FAF) imaging is slowly edging into the mainstream of ophthalmic imaging and diagnostics, most commonly used in order to evaluate the health of the retinal pigment epithelium (RPE), primarily in dry AMD, but in other diseases of the retina and choroid as well. Instrumentation for FAF will be discussed as well as the characteristics of healthy and diseased RPE. At

the end of this course, students will have an understanding of the rationale and methodology of FAF imaging, as well as be conversant in FAF findings of many retinal diseases.
CEC OPS 1

TUESDAY, OCTOBER 19TH

8:30 am - 9:30 am

TU-1-A **Missouri**
Imaging for Retinal Disease
Marcela Hickey, CRA
This lecture will discuss the **basics** ophthalmic photographers and technicians need to know about the principles and applications of OCT when imaging patients with retinal diseases. Tips and techniques in obtaining images will be shown. At the end of this course, the student should be able to list the most common characteristics of frequently seen retinal diseases, list the problems that might be encountered, and identify how to overcome those problems when imaging these patients.
CEC OPS 1

TU-1-C **Erie**
The Jamie Nicholl Symposium:
Controversies in Ophthalmic Photography
Robert Curtin, CRA, FOPS - Moderator
A panel of experienced ophthalmic photographers and managers will lead discussion through a range of topics currently debated by ophthalmic photographers. Topics such as photographers performing venipuncture, the merits of new technologies, and the changing field of ophthalmic photography are but starting points for a lively discussion. Bring your concerns and be prepared to participate in the debate! This course is named in honor of the late Jamie Nicholl, CRA, FOPS, who moderated it for many years. Upon completion of the course, the student should be able to discuss how the field of ophthalmic photography is changing and compare points of view concerning issues that are currently being debated among the ophthalmic community.
CEC OPS 1

9:45 am – 10:45 am

TU-2-A **Missouri**
Structuring an Intern/Training Program
David Miller, CRA
This course will highlight an approach for structuring a training program for ophthalmic photography interns or any beginning ophthalmic photographers. The presentation will describe the methods and benefits of implementing such a program at an existing photography department. Emphasis will be placed on how the students are trained and the significance of the techniques we teach. At the conclusion of this course, the student will be able to describe the purpose and benefit of a structured training program, as well as utilize the concepts and tools to go about designing their own training program.
CEC OPS 1

TU-2-B **Huron**
Creating Medical and Scientific Animated Visualizations
Timothy J. Steffens, CRA
While many of the structures and functions of the human body that are studied in science are too complex or unknown to be graphically represented accurately, most are able to be rendered to a level of understanding that allows these concepts to be studied. Many great advances in the past few years have allowed researchers the ability to determine actual structures of complex biological components such as proteins. These data sets can be incorporated into 3D graphic software and extrapolated into structures that allow us to examine these complex structures further in a realistic simulation. This course will take you through a five step process on how to create scientific animations of complex biological structures and functions. Upon completion of this course, students should be able to identify five steps for producing a medical animated video, and verbalize how it is useful in patient education.
CEC OPS 1

11:00 am - 12:00 pm

TU-3-A **Missouri**
Web Site Basics for Ophthalmic Photography
Marshall Tyler, CRA, FOPS
There are many potential uses for an ophthalmic website that include imaging as a key component. Students will learn the basics, from how to obtain (register) a domain name and obtain a website server service, to working with the server to upload and delete files and images. Elements of a web page will be taught, and students will also receive a very basic introduction to Adobe Dreamweaver™ for web site layout and infrastructure design. Note: This is NOT a Dreamweaver course. Upon completion of the course, the student should be able to describe the uses of an ophthalmic web site, describe how to obtain a domain name, use a web hosting service, and list basic components of a web page.
CEC OPS 1

TU-3-B **Huron**
Retinal Oximetry
Sarah Moyer, CRA, OCT-C
Retinal Oximetry is a new imaging technology that measures the amount of oxygen in retinal vessels. This course will discuss current manufacturers of retinal oximeters. It will highlight the importance of retinal oximetry and its diagnostic value and will address retinal oximeter hardware, imaging technique, vessel tracking technology, and data interpretation. Upon completion of

this class, students should be able to list the components of an oximeter, describe how to image with a retinal oximeter and read the data it collects.
CEC OPS 1

TU-3-C **Erie**
Confocal Microscopy
Rhonda Curtis, CRA, FOPS
Confocal microscopy captures a sequence of digital images of the cornea in vivo. The fine, transparent structures of the cornea become visible using this technique as the light reflected by unfocused layers is shielded out of the optical path. This imaging technique is used on corneal pathologies such as Fuchs' endothelial dystrophy, acanthamoeba keratitis, and granular dystrophy. Some of confocal microscopy's clinical applications include pre and post PRK and LASIK evaluation, endothelial cell analysis, and morphological analysis. By the end of this course, students should understand how confocal microscopy works, which corneal pathologies it is used on, and about its clinical applications.
CEC OPS 1

Cell phones and pagers must be turned off while attending all lecture and workshop sessions. Audio and/or video recording is strictly prohibited.

UPCOMING OPS EVENTS

EDUCATIONAL OPPORTUNITIES

Mid-Year Educational Program
Seattle, Washington
2011

42nd Annual Educational Program
Orlando, Florida
October 21-25, 2011

CERTIFICATION EXAMINATION OPPORTUNITIES

Look for upcoming CRA and OCT-C examinations:

Spring, 2011

Summer, 2011

Watch the OPS web site for more information on future programs and examinations - www.opsweb.org

CONTINUING EDUCATION CREDIT

Approved OPS continuing education credits are listed at the end of each course description. Application has been made for JCAHPO CE credits. Approved credits will also be listed on the OPS web site: www.opsweb.org. Continuing Education Credit will be awarded to all registrants who present a ticket for admission at the beginning of the course, attend the course, and submit a properly completed course evaluation card at the conclusion of the course. *CEC credits will be awarded for The Scientific Paper Session.* CEC documentation will be mailed to registrants four to six weeks after the Educational Program.

When registering for the Annual Program, each attendee is assigned an individual registration number. Each student must hand in their own ticket to gain access to the course and receive the evaluation card. On the course evaluation cards, your registration number, course number and course title should be written at the top of the card. The course number and title will be announced at the beginning of each lecture/workshop. Credit will not be given for less than fifty minutes attendance per hour at either the lectures or workshops. If you arrive more than ten minutes late to a course you will be admitted to the course, but your arrival time will be noted at the top of the card. If you leave more than ten minutes before the end of the course, your exit time will be noted at the top of the card. If you do not meet the fifty minute per hour requirement, your evaluation will be tallied but you will not receive credit for the course. Students must hand in their own evaluation card when the course has ended.

Course evaluation cards will not be accepted by room monitors from anyone other than the registered attendees. In no case will any evaluation card be accepted for credit after the beginning of the next scheduled lecture/workshop.

To obtain credit, you must

1. Register for the course
2. Meet the course attendance time requirement
3. Correctly complete the course evaluation card, in #2 pencil, with registration number
4. Hand in the completed card at the end of the course to the room monitor

Lecture Faculty

Leslie Barresi, CRA, OCT-C
Harvard Vanguard Medical Associates
Boston, MA

Denice Barsness, CRA, ROUB, FOPS
California Pacific Medical Center
San Francisco, CA

Dirk-Uwe Bartsch, PhD
UCSD Shiley Eye Center
La Jolla, CA

Timothy J. Bennett, CRA, FOPS, OCT-C
Penn State Hershey Eye Center
Hershey, PA

Paul Bernstein, MD
University of Utah, Moran Eye Center
Salt Lake City, UT

Jerry Bousson, COT, CRA, RDMS
VA Medical Center
Newnan, GA

Debra Brown, CRA
University of California San Francisco
San Francisco, CA

Amanda Bye, CRA
Heidelberg Engineering, Inc.
Oakland, CA

Vivek Chaturvedi, MD
Illinois Retina Associates
Rush Medical Center
Chicago, IL

Kenneth L. Cohen, MD
University of North Carolina
Chapel Hill, NC

Scott W. Cousins, MD
Duke University Eye Center
Durham, NC

Karl Csaky, MD
Texas Retina Associates
Retina Foundation of the Southwest
Dallas, TX

Denise Cunningham, CRA, RBP, FOPS
National Eye Institute of NIH
Bethesda, MD

Robert E. Curtin, II, CRA, FOPS
Digital Angiography Reading Center
New York, NY

Rhonda Curtis, CRA, FOPS
Washington University Medical School
St. Louis, MO

Ronald Danis, MD
University of Wisconsin-Madison
Madison, WI

Michael DellaVecchia, MD, PhD
Wills Eye Institute
Philadelphia, PA

Carl Edouard Denis, CRA, OCT-C
Optovue, Inc.
Miami, FL

Jim DiVitale
DiVitale Photography
Atlanta, GA

Kathleen Dowell
Digital Angiography Reading Center
New York, NY

Howard F. Fine, MD
Columbia University
New York, NY

Esmeralda Gallemore, COA
Retina Macula Institute
Torrance, CA

Ron Gallemore, MD, PhD
Retina Macula Institute
Torrance, CA

James Gilman, CRA
University of Utah, Moran Eye Center
Salt Lake City, UT

Richard A. Hackel, MA, CRA, FOPS
Kellogg Eye Center
Ann Arbor, MI

Dean Hainsworth, MD
University of Missouri-Columbia
Columbia, MO

Ditte J. Hess, CRA, FOPS
Bascom Palmer Eye Institute
Miami, FL

Marcela Hickey, CRA
Bascom Palmer Eye Institute
Naples, FL

Larry Hubbard, MAT
Fundus Photograph Reading Center
University of Wisconsin
Madison, WI

Glenn J. Jaffe, MD
Duke Eye Center
Durham, NC

Lee Jampol, MD
Northwestern University
Chicago, IL

LeRoy 'Jud' Judkins, COA, OCT-C
Eye Associates Northwest, PC
Seattle, WA

Michael P. Kelly, CPT
Duke University Eye Center
Durham, NC

Alan E. Kimura, MD
Colorado Retina Associates, PC
Denver, CO

Anda Krist, COT, CRA
Mark Nelson, MD
Winston-Salem, NC

Kirsten Locke, CRA, RN
Retina Foundation of the Southwest
Dallas, TX

Leslie MacKeen, CRA, BSc, OA
Clarity Medical Systems
Pleasanton, CA

Mark Maio, FOPS
inVision
Alpharetta, GA

Calvin E. Mein, MD
Retinal Consultants of San Antonio
San Antonio, TX

William F Mieler, MD
University of Chicago
Chicago, IL

Mark Mifflin, MD
University of Utah, Moran Eye Center
Salt Lake City, UT

David Miller, CRA
Wake Forest University Eye Center
Winston-Salem, NC

Amy Mirafzal
Optos, Inc.
Marlborough, MA

Paul R. Montague, CRA, FOPS
University of Iowa Hospitals & Clinics
Iowa City, IA

Paula F. Morris, CRA, FOPS
University of Utah, Moran Eye Center
Salt Lake City, UT

Sarah M. Moyer, CRA, OCT-C
University of North Carolina
Chapel Hill, NC

Mark Nelson, MD
Winston-Salem, NC

Dennis Orlock, CRA, FOPS
DARC, Retina Research, MEETH
New York, NY

Richard Ornberg, MD, PhD.
Alcon Research
Fort Worth, TX

Paul Paquette, COMT, CRA, FOPS
Visual Eyes Ophthalmographics, Inc.
Long Beach, CA

Ethan R. Priel, FOPS
Mor Medical Center
Bnei-Brak, Israel

David A. Quillen, MD
Penn State Hershey Eye Center
Hershey, PA

Kourous Rezaei, MD
Illinois Retina Associates
Harvey, IL

Kim Ross, OC
American Academy of Ophthalmology
San Francisco, CA

Srinivas R. Sadda, MD
Doheny Eye Institute
Pasadena, CA

Laura Savage, CRA, COMT
Dartmouth-Hitchcock Clinic
Manchester, NH

Robert C. Sergott, MD
Neuro-Ophthalmologic Associates, PC
Philadelphia, PA

Giovanni Staurenghi, MD
Luigi Sacco Hospital, Univ of Milan
Milan, Italy

Timothy J. Steffens, CRA
Heidelberg Engingeering, Inc.
Indianapolis, IN

Rosalind Stevens, MD
Dartmouth-Hitchcock Medical Center
Lebanon, NH

Ivan Suner, MD
Retina Associates of Florida, PA
Tampa, FL

Dennis W. Thayer
Fundus Photograph Reading Center
Madison, WI

Jennifer Turano, CRA
Carl Zeiss Meditec, Inc.
Philadelphia, PA

Marshall Tyler, CRA, FOPS
Wake Forest University Eye Center
Winston-Salem, NC

Cynthia VandenHoven, CRA
Hospital for Sick Children
Toronto, ON, Canada

Pamela J. Vargo, CRA
University of Wisconsin-Madison
Fundus Photograph Reading Center
Madison, WI

Rhonda Waldron, MMSc, COMT, CRA
Emory Eye Institute
Atlanta, GA

Alexander Walsh, MD
Doheny Eye Institute
Los Angeles, CA

Joseph Warnicki, FOPS
Digital Angiography Reading Center
Pittsburgh, PA

Paul L. Zimmerman, MD
Black Hills Regional Eye Institute
Rapid City, SD

Workshop Faculty

Dirk-Uwe Bartsch, PhD
UCSD Shiley Eye Center
La Jolla, CA

Gerald Bousson, COT, CRA, RDMS
VA Medical Center
Newnan, GA

Kenneth Boyd, BS, CRA
Montefiore Medical Center
Bronx, NY

Debra Brown, CRA
University of California San Francisco
San Francisco, CA

Amanda Bye, CRA
Heidelberg Engineering, Inc.
Oakland, CA

Carl Edouard Denis, CRA, OCT-C
Optovue, Inc.
Miami, FL

James Gilman, CRA
University of Utah, Moran Eye Center
Salt Lake City, UT

LeRoy 'Jud' Judkins, COA, OCT-C
Eye Associates Northwest, PC
Seattle, WA

Leslie MacKeen, CRA, BSc, OA
Clarity Medical Systems
Pleasanton, CA

Amy Mirafzal
Optos, Inc.
Marlborough, MA

Sarah M. Moyer, CRA, OCT-C
University of North Carolina
Chapel Hill, NC

Dennis Orlock, CRA, FOPS
DARC, Retina Research, MEETH
New York, NY

Paul Paquette, CRA, COMT, FOPS
Visual Eyes Ophthalmographics, Inc.
Long Beach, CA

Jim Soque, COA
Island Retina
Shirley, NY

Pamela J. Vargo, CRA
Fundus Photograph Reading Center
Madison, WI

THE DON WONG AWARD

In 1990 the Ophthalmic Photographers' Society established a new award for the best scientific paper presented at each Annual Educational Program. The award is named for Don Wong (1931-1999), a founding member of our Society whose entire career exemplified literary and professional achievement.

Don was the creator and first editor of our Journal of Ophthalmic Photography, one of the earliest proponents of the certification program, and the father of the international meeting series. He worked tirelessly to encourage professionalism in our technical work and high ethical standards in our lives. He was a mentor and friend to many.

The Don Wong Award recognizes outstanding scientific achievement in our profession. Presentations will be judged by a panel of accomplished colleagues on the basis of content, originality, organization, presentation, delivery and importance to the field.

DON WONG AWARD RECIPIENTS

1990	*Randall E. Verdick*	*2000*	*Ethan Priel*
1991	*George Weir, CRA*	*2001*	*Dennis Orlock, CRA*
1992	*Jeff Jacobs, CRA*	*2002*	*Kevin Langton, CRA*
1993	*Jim Gilman, CRA*	*2003*	*Lawrence Merin, RBP, FOPS*
1994	*Randall E. Verdick*	*2004*	*Dennis Orlock, CRA*
1995	*Lawrence M. Merin, FOPS*	*2005*	*Timothy J. Bennett, CRA, FOPS*
1996	*Linda M. Kelley, CRA*	*2006*	*Ethan Priel, FOPS*
1997	*Bobbie A. Turner, AA, CRA, COT*	*2007*	*Dennis Orlock, CRA, FOPS*
1998	*Patrick J. Saine, CRA, FOPS*	*2008*	*Robert G. Shutt, CRA, OCT-C*
1999	*Csaba L. Martonyi, CRA, FOPS*	*2009*	*Ditte J. Hess, CRA, FOPS*

Johnny Justice Jr. Scholarship

The first Johnny Justice Jr. Scholarship was awarded in 1996 at the 27th Annual Education Program of the Ophthalmic Photographers' Society. Named in honor of Johnny Justice Jr., a principal founding member of the Ophthalmic Photographers' Society, the JJJ Award is available to assist in the education of persons actively pursuing careers in ophthalmic photography.

The 2010 JJJ Award will provide the chosen applicant with a $700.00 cash award for any educational courses approved by the OPS. In addition, the scholarship winner will receive course registration, course fees for ten course hours, and workshop fees for three workshops, at this year's Annual Education Program to be held in Chicago, Illinois.

The Johnny Justice Jr. Award is funded by the Johnny Justice Jr. Scholarship Fund. The fund is supported by contributions and fund raising activities like the raffle held during the Annual Educational Program.

The Johnny Justice Jr. Award was created by the Board of Directors of the Ophthalmic Photographers' Society to not only honor its founder, but also to assist its members in their efforts to gain knowledge and experience in the field of ophthalmic photography.

THE CSABA L. MARTONYI AWARD

The OPS Board of Directors announces the establishment of the Csaba L. Martonyi Award, to be given annually to the best image from the OPS Scientific Exhibit. Csaba L. Martonyi, CRA, FOPS is Emeritus Associate Professor and Former Director of Ophthalmic Photography at the Kellogg Eye Center, University of Michigan Medical School. A longtime active member of the Ophthalmic Photographers' Society, he has served on the OPS Board of Directors, was first Chair of the OPS Board of Certification, is a Past President, and recently retired from the post of OPS Parliamentarian. Csaba is well known for his teaching and writing, most notably for the classic text Slit Lamp Examination and Photography, now in its third edition.

This new award celebrates the high standards of excellence in imaging that Csaba has exemplified throughout his career. He has always stressed that it is not sufficient for us as professional imagers to simply take the picture that will "get by", but to put our effort and skill into producing images that both serve a medical purpose and demonstrate technical and artistic perfection. He has demonstrated his ability to accomplish this through the countless awards that his photographs have won, and he encouraged others in his profession to strive for these same goals through his teachings. This goal, which Csaba has championed throughout his career, is the heartbeat of our Scientific Exhibit.

Please join the OPS Board of Directors in congratulating Csaba L. Martonyi, CRA, FOPS on the establishment of this award in his honor and consider entering your best work for consideration in the 2010 Scientific Exhibit competition and the opportunity to be the third recipient of the Csaba L. Martonyi Award.

JCAHPO AD

APOLLO OPHTHALMICS AD

OPHTHALMIC PHOTOGRAPHERS' SOCIETY
EYE IMAGING EXPERTS

Membership Office
1887 W. Ranch Rd.
Nixa, MO 65714 USA
417-725-0181 (outside USA)
1-800-403-1677 (USA only)
417-724-8450 (Fax)

APPLICATION FOR MEMBERSHIP

Name_____
(Last, First, Middle Initial) (Certification or Licensure)

Mailing Address for OPS Correspondence

_____

_____

_____

_____
Office Telephone (include country and city codes if outside the USA)

_____
Fax

_____
Home Telephone (Optional)

_____
Email

Credit Card Information

_____
Account Number

_____
Expiration Date Verification Code

_____
Name on Card (please print)

_____
Signature

_____
Billing Address (if different than the mailing address)

_____

Credit Cards Accepted: Visa, Mastercard, Discover

Annual Membership Fee - $85.00

The membership year for the Ophthalmic Photographers' Society is June 1 through May 31. Renewal notices mailed to all members in January each year are payable by May 31st. Members not renewing by June 15th are not included in the membership directory and stop receiving mailings from the Society.