

Ocular immunology: Fundamentals, disease entities, and future therapeutic opportunities

Course organizers

Reza Dana, MD, Mass. Eye & Ear Infirmary / Harvard Medical School, (Lead), Sunil Chauhan, PhD, Harvard Medical School and Daniel Saban, PhD, Duke University School of Medicine

Presentations

Presenters and presentations may change.

Time	Presentation title	Presenter
8-8:15am	Introduction- Spectrum of Ocular Immunopathologies	Reza Dana, MD, Mass. Eye & Ear Infirmary / Harvard Medical School
8:15-8:30am	Ocular Immune Privilege	Jerry Niederkorn, PhD, University of Texas Southwestern Medical Center
8:30-8:45am	Dry Eye Disease	Cintia De Paiva, MD, Baylor College of Medicine
8:45-9am	Autoimmune posterior uveitis – lessons from animal models	Rachel R. Caspi, PhD, FARVO, Senior Investigator Immunoregulation Section, National Institutes of Health, National Eye Institute
9-9:15am	Corneal Transplantation and Beyond	Victor Perez, MD, Foster Center for Ocular Immunology at Duke Eye Center
9:15-9:30am	Development of inflammatory hypoxia and the prevalence of glycolysis in herpes simplex virus-induced stromal keratitis	Susmit Suvas, PhD, Wayne State University School of Medicine
9:30-9:45am	Discussion	
9:45-10am	Break	
10-10:15am	Innate immunity in bacterial and fungal keratitis	Eric Pearlman, PhD, University of California, Irvine

Time	Presentation title	Presenter
10:15-10:30am	Interplay between adaptive and innate immune responses in chronic allergic eye disease (AED) and Meibomian gland dysfunction (MGD)	Daniel Saban, PhD, Duke University School of Medicine
10:30-10:45am	Ocular Immune Modulation by Adult Stem Cells	Sunil Chauhan, PhD, Harvard Medical School
10:45-10:55am	Discussion	
10:55 – 11am	Quick break to stretch	
11-11:15am	Innate Immunity and Uveitis	James Rosenbaum, MD, Devers & Casey Eye Institutes
11:15-11:30am	Complement Dysregulation/ Age-Related Macular Degeneration	Catherine Bowes Rickman, PhD, Duke University Medical Center
11:30-11:45am	Type II cytokines, immune activation and regulation of metabolism	Andrew Dick, MD, University of Bristol, UCL-Institute of Ophthalmology
11:45-11:55am	Discussion	
11:55am-12pm	Wrap up	Reza Dana, MD, Mass. Eye & Ear Infirmary / Harvard Medical School

Continuing Medical Education Program Information

Statement of need

A significant number of disorders of the eye have an immune basis to their pathogenesis. Despite the growing number of patients with these disorders, clinicians and clinician-scientists are not familiar with the fundamentals of immunology and do not recognize key aspects of the ocular immune response in the context of immune/inflammatory conditions such as infection, transplantation, and autoimmunity. As such, they do not know how to apply this knowledge to clinical performance and therefore, are not consistently applying these key factors in their research and professional practice.

Target audience

The target audience includes research students and fellows, basic and clinician-scientists, and clinicians working in the field of ophthalmology.

Educational objectives

After participating in this CME activity, participants should be able to:

- Describe the components of the immune system and immunologic privilege as it pertains to the eye.
- Recognize key cellular and molecular factors driving pathology in ocular immune/inflammatory conditions.

- Evaluate current areas of research on immune modulation and future opportunities for targeted immune-based therapies.
- Evaluate the major clinical trials on anti-VEGF therapies in diabetic retinopathy.

Physician accreditation statement

The Association for Research in Vision and Ophthalmology (ARVO) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Physician credit designation

ARVO designates this live activity for a maximum of 3.75 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

International Attendees: The American Medical Association (AMA) has determined that physicians not licensed in the U.S. who participate in CME activities are eligible for *AMA PRA Category 1 Credit™*.

The following Annual Meeting session types are not certified as Continuing Medical Education (CME) and are not eligible for *AMA PRA Category 1 Credit™*: ALCON/Keynote series, Award lectures, Posters, SiGs, and Special sessions.

American Board of Ophthalmology (ABO) diplomates

Successful completion of this CME activity, which includes participation in the evaluation component, enables the learner to satisfy the Lifelong Learning, Self-Assessment, Improvement in Medical Practice and/or Patient Safety requirements for the American Board of Ophthalmology's Maintenance of Certification program. It is the CME activity provider's responsibility to submit learner completion information to ACCME for the purpose of granting MOC credit.

The Annual Meeting qualifies for Lifelong Learning (Part II). Credits will be reported to the ABO via the ACCME in September each year.

ARVO does not solicit commercial support so learner data will not be shared with any entity other than the ACCME for the purpose of granting MOC credit. Attendees will be able to provide the required information for MOC credit tracking on the Overall Meeting Evaluating Form. By providing the required information, attendees will be giving ARVO permission to share their learner data with the ACCME.

Royal College of Physicians and Surgeons of Canada

Fellows and Health Care Professionals participating in the Maintenance of Certification Program can record credits earned at the Annual Meeting toward Section 1: Group Learning Credits.

European Union of Medical Specialists (UEMS) CME/CPD requirements

European physicians can convert CME credit from the Annual Meeting to meet European Union of Medical Specialists (UEMS) CME/CPD requirements.

The American Medical Association has an agreement of mutual recognition of CME credits with the UEMS, the accreditation body for European countries. Physicians interested in *converting AMA PRA Category 1 Credit™* to UEMS-European Accreditation Council for Continuing Medical Education CME credits (ECMECs) should contact the UEMS at mutualrecognition@uems.eu.

Certificate of participation

ARVO is accredited to offer *AMA PRA Category 1 Credits™* to physicians. All other participants in the CME program may receive a Certificate of Participation that documents the number of CME hours attended* by following the same instructions listed above and paying the CME credits and certificates fee.

*Some accrediting agencies may award equivalent Continuing Education (CE) credit when presented with a Certificate of Participation from an activity that offered *AMA PRA Category 1 Credit™*. Check with your accrediting agency for information.

Instructions to receive credit and/or certificates

Attendees interested in claiming *AMA PRA Category 1 Credits™* for attendance at this Education Course must pay the CME credits and certificates fee. Payment is collected during the Annual Meeting registration process by adding “CME credits and certificates” as a session. **Attendees who do not register for CME before the conclusion of the course will not be able to claim and request credit.** Attendees registered as guests are not eligible to receive CME credit.

CME registrants will receive an email from “ARVO 2019 CME” with credit claiming instructions prior to the start of the Education Course. All requests for credit must be submitted no later than 11:59pm U.S. Eastern Time on Friday, Aug. 30, 2019.

Contact us

ARVO
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 Rockville, Md. 20852, USA
 Email: education@arvo.org, p. +1.240.221.2900

Certificate of attendance

Certificates of attendance are available free to all attendees. These certificates state that one has attended the Education Course; but does not offer credit tracking. Contact education@arvo.org to request a certificate of attendance.

CME credits and certificate fee (paid in conjunction with Annual Meeting registration)	Advance	Onsite
MIT, Student Non-Member	\$59	\$59
Member, Non-Member, Exhibitor (paid full-meeting access badge)	\$79	\$99
Exhibitor (complimentary full-meeting access badge only)	\$89	\$89

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The Annual Meeting provides a forum for the open exchange and discussion of research results and scientific advancements in the field of ophthalmology; however, ARVO makes no representation or warranty as to the truth, originality, or accuracy of the information presented at the meeting or in materials distributed in connection with them. Nor are the views expressed by the individual speakers necessarily the views of ARVO. ARVO supports the ACCME’s policy on evidence-based content and encourages faculty to adhere to these standards when planning a presentation.

Participants have an implied responsibility to use the newly acquired information to enhance patient outcomes and their own professional development. The information presented in this meeting is not meant to serve as a guideline for patient management. Any procedures, medications, or other courses of diagnosis or treatment discussed in this activity should not be used by clinicians without evaluation of patient conditions and possible contraindications on dangers in use, review of any applicable manufacturer’s product information, and comparison with recommendations of other authorities.

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The Annual Meeting may contain discussion of published and/or investigational uses of agents that are not indicated by the FDA. ARVO does not recommend the use of any agent outside of the labeled indications.

The opinions expressed in the educational activity are those of the faculty and do not necessarily represent the views of any organization associated with this activity. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications and warnings.

Disclosure of conflicts of interest

ARVO requires instructors, planners, managers and other individuals and their spouse/ partner who are in a position to control the content of this activity to disclose any real or apparent conflict of interest they may have as related to the content of this activity. All identified conflicts of interest are thoroughly vetted by ARVO for fair balance, scientific objectivity of studies mentioned in the materials or used as the basis for content, and appropriateness of patient care recommendations.

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Disclosure information for presenters will be provided within initial disclosure slides, prior to the start of their respective presentations. Disclosure for all individuals involved in planning and managing this CME activity are listed here with their relevant disclosure information.

The *planners and managers* reported the following financial relationships or relationships to products or devices that they or their spouse/life partners have with commercial interests related to the content of this CME activity:

Professional Development and Education Committee (PDEC)

Chair: Shlomit Schaal, MD PhD; Nothing to disclose.

The following individuals on the AMPC reported financial relationships.

Name	Commercial interest (nature of the relationship)
Bennie H Jeng, MD	Aquinox: (C); Aerie: (C); EyeGate: (I, C); Kedrion: (C); TissueTech: (C)

The following individuals on the PDEC committee reported no financial relationships.

Nizar Saleh Abdelfattah, MD, David Cordeiro Sousa, MD, MSc, Thomas Armin Fuchsluger, MD PhD FEBO MSc, Meredith Giblin, Bo Lei, MD PhD, Yureeda Qazi, M.D, Andrew T C Tsin, PhD FARVO, Fuensanta A Vera-Diaz, PhD, OD, Siamak Yousefi, PhD, Jie J Zheng, PhD

Continuing Medical Education Committee (CME)

Chair: William J Foster, MD PhD FRCS, Altasciences Clinical Research: (C); US Patent 9,050,171, Small diameter fragmatome for minimally traumatic retained lens fragments removal: (P)

The following individuals on the CME Committee reported financial relationships.

Name	Commercial interest (nature of the relationship)
Anton B. Hommer, MD	Santen: (R); Allergan: (R); Alcon: (R); Thea: (R)
Christina Y Weng, MD, MBA	Allergan, Inc.: (C); Alimera Sciences, Inc.: (C)

The following individuals on the CME Committee reported no financial relationships.

Helena Filipe, MD; Bruce Ira Gaynes, OD PharmD; Vivek Kumar Gupta, PhD; Ludwig M. Heindl, MD, PhD; Ines Cardoso Leal, MD; Jonathan H Lin, MD PhD; Jaime Tejedor, MD, PhD; Ann Sofia Skou Thomsen, MD; and Sarah Xin Zhang, MD.

The following activity managers have reported no financial relationships.

Regina Borkoski; Gayle Claman, MS, CAE; Cathy Conley; Kathy Cox; and Lancey Cowan, JD, CAE

The following clinical content reviewer has reported no financial relationships.

Lindsay Scott, PT, DPT, ATC

Category code: Specific financial interests

F (Financial Support) Indicates financial support received from an ACCME-defined commercial interest, in the form of research funding, grants, research materials or in-kind services (e.g., protein sequencing).

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