Development of pluripotent stem cell-based platforms for disease modeling and therapies

Course organizers

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Course description

Pluripotent stem cell-derived retinal tissues exhibit morphological resemblance and significant functional parallels to in vivo retinal structures, presenting a promising in vitro platform. Nevertheless, a notable disparity persists between the current maturity of this platform and its potential therapeutic applications. This course will comprehensively introduce various types of pluripotent stem cell-derived tissues and update the audience with the recent advances. It will also provide examples of how to apply pluripotent stem cell-based platforms to evaluate therapies. Finally, a panel discussion will provide an opportunity for networking and in-depth discussion between speakers and audience to address specific projects.

Learning objectives

Attendees will leave this session with the ability to:

- Describe various approaches to generate pluripotent stem cell-derived retinal tissues.
- Outline current advances and future directions in stem cell technologies.
- Describe the latest updates and developments in ARVO, AAO, and NEI initiatives for AI and big data in ophthalmology and visual sciences.
- Recognize the pros and cons of pluripotent stem cell-based approaches.
- Design pluripotent stem cell-based platform for developing therapies.

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.

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Statement of Need

Pluripotent stem cell-derived retinal tissues morphologically and, in many important aspects, functionally mimic in vivo retina, suggesting a promising in vitro platform. However, there is a gap between the maturity of this platform and their applications into therapeutics.

Target Audience

Researchers who want to learn more about the recent advances and applications of pluripotent stem cell-based platforms and/or implement this cutting-edge technology for disease modeling and/or therapies in their research.

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

European physicians can convert CME credit from the course 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.

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Certificate of attendance

Certificates of attendance are available free to all attendees. These certificates state that one has attended the course but does not offer credit tracking. These certificates are available for self-service download from the Annual Meeting website.

Contact Us

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The following activity managers reported no relevant financial relationships.

> Cathy Conley (Activity Manager) Melissa Marick, MA (Activity Manager)

The following clinical content reviewers reported no relevant financial relationships.

> Kimberly Zanon, BSN, RN

The following course organizers, activity planners and managers reported relevant financial relationships.

Full name	Role	Disclosure
Holly Chen, MD	Course organizer	Predictive Oncology (C);PCT/US2021/040157 (P)
Priya Chaudhary, PhD	PDEC	Alcon Research Institute (F)

Azza El-Remessy, PhD, PharmD, BC-ADM	PDEC	Nour Therapeutics, LLC (O)
Edmund Tsui, MD	PDEC	Kowa Company Ltd (C, F); Cylite Pty Ltd (F); EyePoint Pharmaceuticals (C)
Sophie Deng	PDEC	Amgen (C); Novartis (C); Cellusion (C); Kowa (C); Claris Biopharmaceutical (C); Oyster point (C)
Thomas Ach, MD, FEBO	CME	Apellis Pharmaceutical (R); Roche (R); Novartis (R); Bayer(R); Johnson & Johnson (R); Macregen (I) (ended Feb. 2022)
Ron Adelman, MD, MPH, MBA	CME	Identifeye (C); Johnson & Johnson/Jenssen: (C)
Parisa Emami, MD, MPH	CME	Eyepoint Pharmaceuticals (C); Bausch and Lomb (C)
Sally Ong, MD	CME	Eyepoint Pharmaceuticals (C); Patent Cooperation Treaty (PCT) Application No. PCT/US2023/024209 (P)
Laura Lanford	Activity manager	Johnson and Johnson (I); Pfizer (I)

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