

Advanced Clinical Embryology Course (ACE Course)

Program for the Academic Year 2025-2026



Teaching Module 1

"Human Reproduction: Physiology, Pathophysiology and Recent Advances"

| Submodules | Lectures & Instructors | Date & Time |
|---|--|--|
| Scientific & Academic Director | Welcoming Session and Principle Aims of the ACE Course <i>Mara Simopoulou</i> | 1/10/2025 5:00 p.m. – 5:15 p.m. |
| Opening Lecture | On the future of assisted reproduction: Lessons from the past <i>Jacques Cohen</i> | 1/10/2025 5:15 p.m. – 6:00 p.m. |
| 1.1 | Female Reproductive System: Physiology and Oogenesis TBC | 1/10/2025 6:00 p.m. – 7:00 p.m. |
| 1.2 | Female Infertility: Aetiology and management strategies <i>Ippokratis Sarris</i> | 8/10/2025 5:00 p.m. – 6:00 p.m. |
| 1.3 | Male Reproductive System: Physiology and Spermatogenesis <i>Francesco Lotti</i> | 8/10/2025 6:00 p.m. – 7:00 p.m. |
| 1.4 | Evaluation and management of male infertility <i>Theodora Stasinou</i> | 15/10/2025 5:00 p.m. – 6:00 p.m. |
| 1.5 | Ovarian stimulation in the era of personalized and precision medicine <i>Theodoros Kalampokas</i> | 15/10/2025 6:00 p.m. – 7:00 p.m. |
| 1.6 | Diminished ovarian reserve from bench to bedside <i>Panagiotis Drakopoulos</i> | 22/10/2025 5:00 p.m. – 6:00 p.m. |
| 1.7 | Embryo and Endometrium: A complex relationship <i>Irene Souter</i> | 22/10/2025 6:00 p.m. – 7:00 p.m. |
| 1.8 | Embryo Transfer: Evidence based clinical practice <i>Nikos Christoforidis</i> | 29/10/2025 5:00 p.m. – 6:00 p.m. |
| 1.9 | Recurrent Miscarriage and Recurrent Implantation Failure: How far have we come? <i>Petros Drakakis</i> | 29/10/2025 6:00 p.m.– 7:00 p.m. |
| 1.10 | The role of Nutrition and Metabolic Factors on Human Reproduction and MAR <i>Chavarro Jorge</i> | 29/10/2025 7:00 p.m. – 8:00 p.m. |

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Teaching Module 2

“Organization, Management and Quality Control in the Embryology Laboratory,
in the Andrology Laboratory and in Cryopreservation Banks”

| Submodules | Lectures & Instructors | Date & Time |
|------------|--|--|
| 2.1 | Organization and management on setting up an Assisted Reproduction Unit Despina Tzanakaki | 5/11/2025 5:00 p.m. – 6:00 p.m. |
| 2.2 | Organization, management, and Standard Operating Procedures (SOPs) for the Embryology Laboratory Giles Palmer | 5/11/2025 6:00 p.m. – 7:00 p.m. |
| 2.3 | Organization, management, and Standard Operating Procedures (SOPs) for the Andrology Laboratory Evangelini Evgeni | 12/11/2025 5:00 p.m. – 6:00 p.m. |
| 2.4 | Organization, management, and Standard Operating Procedures (SOPs) for Cryopreservation Banks Alexia Chatziparasidou | 12/11/2025 6:00 p.m. – 7:00 p.m. |
| 2.5 | Quality control and crisis management in the IVF Laboratory Chelsey Leisinger | 19/11/2025 5:00 p.m. – 6:00 p.m. |
| 2.6 | Inspecting an IVF Laboratory Gerry Celia | 19/11/2025 6:00 p.m. – 7:00 p.m. |
| 2.7 | Data, data, data. The past, present and future of data management in IVF Jaques Cohen | 26/11/2025 5:00 p.m. – 6:00 p.m. |
| 2.8 | Designing a patient-centered MAR Unit TBC | 26/11/2025 6:00 p.m. – 7:00 p.m. |

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Teaching Module 3

"Semen Analysis, Sperm Preparation and Evaluation of Sperm Quality and Functionality"

| Submodules | Lectures & Instructors | Date & Time |
|------------|--|--|
| 3.1 | Standardized Semen Analysis: Lessons for Novice and Experts TBC | 3/12/2025 5:00 p.m. – 6:00 p.m. |
| 3.2 | Sperm morphology assessment by strict criteria TBC | 3/12/2025 6:00 p.m. – 7:00 p.m. |
| 3.3 | Semen Analysis: Ancillary tests George Liperis | 3/12/2025 7:00 p.m. – 8:00 p.m. |
| 3.4 | Automated analysis of sperm diagnostics and selection for therapeutics: CASA and Beyond Meurig Gallagher | 10/12/2025 5:00 p.m. – 6:00 p.m. |
| 3.5 | Optimal management of ejaculate and non-ejaculate originating spermatozoa for MAR purposes Michael Carroll | 10/12/2025 6:00 p.m. – 7:00 p.m. |
| 3.6 | Sperm preparation techniques for diagnostic and MAR purposes TBC | 10/12/2025 7:00 p.m. – 8:00 p.m. |
| 3.7 | Advanced semen tests Dolores Lamb | 17/12/2025 5:00 p.m. – 6:00 p.m. |
| 3.8 | Contributions of the Male Gamete to the Embryo and Offspring Dolores Lamb | 17/12/2025 6:00 p.m. – 7:00 p.m. |
| 3.9 | Latest research in andrology Ralf Henkel | 17/12/2025 7:00 p.m. – 8:00 p.m. |

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Teaching Module 4

"Novel Techniques and Approaches in Gamete, Embryo, Testicular and Ovarian Tissue Cryopreservation"

| Submodules | Lectures & Instructors | Date & Time |
|------------|--|---|
| 4.1 | How understanding basic cryobiology can help us improve our outcomes Kimball O. Pomeroy | 7/1/2026 5:00 p.m. – 7:00 p.m. |
| 4.2 | Safety in human reproductive cell cryopreservation Lodovico Parmegiani | 7/1/2026 7:00 p.m. – 8:00 p.m. |
| 4.3 | Cryostorage safety: validation, quality control and best practices Kimball O. Pomeroy | 14/1/2026 5:00 p.m. – 6:00 p.m. |
| 4.4 | Factors Affecting Vitrification Success Kimball O. Pomeroy | 14/1/2026 6:00 p.m. – 7:00 p.m. |
| 4.5 | Oocyte and Embryo cryopreservation Laura Rienzi | 21/1/2026 5:00 p.m. – 6:00 p.m. |
| 4.6 | Frozen Embryo Transfer: Optimizing the Outcome Eman Elgindy | 21/1/2026 6:00 p.m. – 7:00 p.m. |
| 4.7 | Restoration of function following ovarian tissue cryopreservation: In vivo and in vitro outcomes David Albertini | 28/1/2026 5:00 p.m. – 6:00 p.m. |
| 4.8 | Testicular tissue cryopreservation: Where are we today? Elena Kontogianni | 28/1/2026 6:00 p.m. – 7:00 p.m. |

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Teaching Module 5

"Insemination Methods and Personalized Medicine"

| Submodules | Lectures & Instructors | Date & Time |
|------------|--|---|
| 5.1 | Insemination methods an Overview of IUI, IVF, ICSI and specialized equipment Jackson Kirkman-Brown | 4/2/2026 5:00 p.m. – 6:00 p.m. |
| 5.2 | Micromanipulation in the era of Individualized Medicine: how to select the best sperm for ICSI Lodovico Parmegiani | 4/2/2026 6:00 p.m. – 7:00 p.m. |
| 5.3 | Intracytoplasmic Sperm Injection (ICSI): Technique and technical aspects Mina Alikani | 11/2/2026 5:00 p.m. – 6:00 p.m. |
| 5.4 | Evaluation of insemination outcomes Nikica Zaninovic | 11/2/2026 6:00 p.m. – 7:00 p.m. |
| 5.5 | ICSI for All? Mina Alikani | 18/2/2026 5:00 p.m. – 6:00 p.m. |
| 5.6 | How to select the best insemination method: Evidence Based Clinical Practice Gemma Arroyo | 18/2/2026 6:00 p.m. – 7:00 p.m. |
| 5.7 | Managing cases of extreme low oocyte yield: Which is the best insemination option? TBC | 18/2/2026 7:00 p.m. – 8:00 p.m. |
| 5.8 | Artificial oocyte activation: From basic research to clinical practice Karl Swann | 25/2/2026 5:00 p.m. – 6:00 p.m. |
| 5.9 | Understanding the oocyte and decoding its competence Federica Franciosi | 25/2/2026 6:00 p.m. – 7:00 p.m. |

Written exams on Modules 1-5

(The examination platform will open on February 27th, 2026, at 7:00 p.m.
and will close on March 6th, 2026, at 7:00 p.m.)

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Teaching Module 6

"Understanding the Embryo and Culture Systems:
Mapping of state-of-the-art Equipment and Protocols"

| Submodules | Lectures & Instructors | Date & Time |
|------------|---|---|
| 6.1 | Physiology and development of the preimplantation embryo <i>Mara Simopoulou</i> | 4/3/2026 5:00 p.m. – 6:00 p.m. |
| 6.2 | The pyramid of successful implantation <i>Laura Rienzi</i> | 4/3/2026 6:00 p.m. – 7:00 p.m. |
| 6.3 | Metabolism of the preimplantation embryo <i>Roger Sturme</i> | 4/3/2026 7:00 p.m. – 8:00 p.m. |
| 6.4 | Culture media in IVF <i>Dean Morbeck</i> | 11/3/2026 5:00 p.m. – 6:00 p.m. |
| 6.5 | Embryo culture incubators <i>Jason E. Swain</i> | 11/3/2026 6:00 p.m. – 7:00 p.m. |
| 6.6 | Time-lapse imaging technology in the IVF laboratory <i>Marcos Meseguer</i> | 18/3/2026 5:00 p.m. – 6:00 p.m. |
| 6.7 | The epigenetics of blastocyst culture <i>Alan Handyside</i> | 18/3/2026 6:00 p.m. – 7:00 p.m. |
| 6.8 | Embryo Culture: Past, Present and Future <i>David Gardner</i> | 1/4/2026 8:00 a.m. – 9:00 a.m. |

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Teaching Module 7

"Basic Knowledge and Recent Advances on Embryo Quality and Evaluation:
From Embryo Morphology to Artificial Intelligence"

| Submodules | Lectures & Instructors | Date & Time |
|------------|---|---|
| 7.1 | Embryo selection David Gardner | 1/4/2026 9:00 a.m. – 10:00 a.m. |
| 7.2 | The making of the blastocyst Giovanni Coticchio | 15/4/2026 5:00 p.m. – 6:00 p.m. |
| 7.3 | Novel approaches in oocyte and preimplantation embryo evaluation and automation in MAR Alejandro Chavez-Badiola | 15/4/2026 6:00 p.m. – 7:00 p.m. |
| 7.4 | Embryo identification Irene Dimitriadis | 22/4/2026 5:00 p.m. – 6:00 p.m. |
| 7.5 | Non-invasive selection of embryo viability: The value of the embryo's metabolic blueprint Denny Sakkas | 22/4/2026 6:00 p.m. – 7:00 p.m. |
| 7.6 | Artificial intelligence in the IVF laboratory Charles Bormann | 29/4/2026 5:00 p.m. – 7:00 p.m. |
| 7.7 | Morphokinetic evaluation of the preimplantation embryo: What is there to gain? Eros Nikitos | 29/4/2026 7:00 p.m. – 8:00 p.m. |

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Teaching Module 8

“Preimplantation Genetic Testing: From Embryo Biopsy and Genetic and Molecular Diagnosis to Novel Approaches and Considerations”

| Submodules | Lectures & Instructors | Date & Time |
|------------|--|---|
| 8.1 | Genetic profile, analysis of the preimplantation embryo and novel approaches <i>Dagan Wells</i> | 6/5/2026 5:00 p.m. – 6:00 p.m. |
| 8.2 | Tips and tricks for optimizing micromanipulations during biopsy for PGT <i>Debbie Venier</i> | 6/5/2026 6:00 p.m. – 7:00 p.m. |
| 8.3 | Preimplantation Genetic Testing for Structural Rearrangements (PGT-SR) <i>Darren Griffin</i> | 13/5/2026 5:00 p.m. – 6:00 p.m. |
| 8.4 | Preimplantation Genetic Testing for Monogenic Disorders (PGT-M) <i>Joanne Traeger-Synodinos</i> | 13/5/2026 6:00 p.m. – 7:00 p.m. |
| 8.5 | Preimplantation genetic testing for aneuploidy (PGT-A): Benefits, risks, and it's true place in MAR <i>Eric Forman</i> | 20/5/2026 5:00 p.m. – 6:00 p.m. |
| 8.6 | Embryo ploidy status and implantation: A conundrum <i>Danilo Cimadomo</i> | 20/5/2026 6:00 p.m. – 7:00 p.m. |
| 8.7 | Physiology of the preimplantation embryo post biopsy and vitrification <i>Aikaterini Chatzimeletiou</i> | 27/5/2026 5:00 p.m. – 6:00 p.m. |
| 8.8 | Chromosomal mosaicism: Origins and clinical implications TBC | 27/5/2026 6:00 p.m. – 7:00 p.m. |
| 8.9 | Non-Invasive Preimplantation Genetic Testing <i>Gary Harton</i> | 27/5/2026 7:00 p.m. – 8:00 p.m. |

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Teaching Module 9

"Novel Concepts and Experimental Approaches in Assisted Reproduction"

| Submodules | Lectures & Instructors | Date & Time |
|------------|---|---|
| 9.1 | The strategic role of the clinical embryologist as a Scientist and Innovator Jared Robins | 3/6/2026 5:00 p.m. – 6:00 p.m. |
| 9.2 | Novel promising concepts in clinical embryology research Ioannis Sfontouris | 3/6/2026 6:00 p.m. – 7:00 p.m. |
| 9.3 | Novel experimental approaches in addressing Ovarian Insufficiency Sonia Herraiz | 3/6/2026 7:00 p.m. – 8:00 p.m. |
| 9.4 | Novel experimental approaches: Mitochondrial Replacement Therapy Nuno Costa-Borges | 10/6/2026 5:00 p.m. – 6:00 p.m. |
| 9.5 | The Bioethicist's perspective on novel approaches and Add-ons offered in Assisted Reproduction Heidi Mertes | 10/6/2026 6:00 p.m. – 7:00 p.m. |
| 9.6 | The Clinical Psychologist's perspective on novel approaches and Add-ons offered in Assisted Reproduction Mariana Veloso Martins | 10/6/2026 7:00 p.m. – 8:00 p.m. |
| 9.7 | Introducing new technology into the IVF lab: Past and Future Joyce Harper | 17/6/2026 5:00 p.m. – 6:00 p.m. |
| 9.8 | Advanced Maternal Age: Challenges and Solutions Martha Luna | 17/6/2026 6:00 p.m. – 7:00 p.m. |
| 9.9 | Novel approaches for studying early embryo-maternal interface TBC | 17/6/2026 7:00 p.m. – 8:00 p.m. |
| 9.10 | Digital transformation of the IVF Unit Achilleas Papatheodorou | 24/6/2026 5:00 p.m. – 6:00 p.m. |
| 9.11 | Concerns and Considerations in IVF practices David Albertini | 24/6/2026 6:00 p.m. – 8:00 p.m. |

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| Teaching Module 10 "Research Methodology and Evidence Based Medicine" | | |
|---|---|---|
| Submodules | Lectures & Instructors | Date & Time |
| 10.1 | The evolution of research in female reproduction: Milestones and future goals <i>George Mastorakos</i> | 1/7/2026 5:00 p.m. – 6:00 p.m. |
| 10.2 | Type of studies in research <i>Theodoros Sergentanis</i> | 1/7/2026 6:00 p.m. – 7:00 p.m. |
| 10.3 | Research and statistics <i>Kimball O. Pomeroy</i> | 8/7/2026 5:00 p.m. – 6:00 p.m. |
| 10.4 | Basic statistical principles for practicing physicians and embryologists <i>Theodoros Sergentanis</i> | 8/7/2026 6:00 p.m. – 7:00 p.m. |
| 10.5 | The value of Systematic Reviews and Meta- Analyses in MAR <i>Efstratios Kolibianakis</i> | 15/7/2026 5:00 p.m. – 6:00 p.m. |
| 10.6 | Evidence Based Medicine <i>Charalampos Siristatidis</i> | 15/7/2026 6:00 p.m. – 7:00 p.m. |
| 10.7 | Evidence-based Clinical Embryology: it is not that simple <i>Jacques Cohen</i> | 22/7/2026 5:00 p.m. – 6:00 p.m. |
| 10.8 | IVF add-ons: Proper Research Methodology and Execution <i>Mara Simopoulou</i> | 22/7/2026 6:00 p.m. – 7:00 p.m. |

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| Teaching Module 11 Critical Analysis Skills Assessment Round Tables "Problem Based Learning Sessions" | | |
|--|--|-----------------------------------|
| Critical Analysis Skills Assessment | | August 2026 |
| Round Tables | Lectures & Instructors | Date & Time |
| Round Table I "Dos and Don'ts of How to Successfully Run an IVF Laboratory" | <u>Moderators & Instructors to be confirmed</u> | 2/9/2026 5:00 p.m. – 7:30 p.m. |
| Round Table II "Outliers: handling unusual events in the IVF laboratory" | <u>Moderator: Gerry Celia</u> | 9/9/2026 5:00 p.m. – 7:10 p.m. |
| | Andrology-The challenge of handling different specimens Liesl Nel-Themaat | 9/9/2026 5:00 p.m. – 5:20 p.m. |
| | Handling unusual patients-Things to watch out Bryan Kloos | 9/9/2026 5:20 p.m. – 5:40 p.m. |
| | Oocyte freezing and thawing: What to watch out for Wayne Caswell | 9/9/2026 5:40 p.m. – 6:00 p.m. |
| | Culture conditions-blastocyst problems: What do we need to know Arthur Chang | 9/9/2026 6:00 p.m. – 6:20 p.m. |
| | PGT-A: The perspective and responsibility of the geneticist Gary Harton | 9/9/2026 6:20 p.m. – 6:40 p.m. |
| | Discussion with experts | 9/9/2026 6:40 p.m. – 7:10 p.m. |

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| Round Table III <i>"The JARG's Round Table: Insights in publishing in Reproductive Medicine"</i> | <u>Moderator:</u> David Albertini | 16/9/2026 5:00 p.m. – 7:10 p.m. |
| | The Editor's perspective: A view from the top 2 decades of change and where we are going David Albertini | 16/9/2026 5:00 p.m. – 5:25 p.m. |
| | What are the characteristics of a publishable manuscript Pierre Comizzoli | 16/9/2026 5:25 p.m. – 5:50 p.m. |
| | From the trenches: Managing the process of reviewing Arthur Chang | 16/9/2026 5:50 p.m. – 6:15 p.m. |
| | From data analysis to clinical relevance Alex Quass | 16/9/2026 6:15 p.m. – 6:40 p.m. |
| | Discussion with experts | 16/9/2026 6:40 p.m. – 7:10 p.m. |
| Round Table IV <i>"Training Management and Development in Clinical Embryology"</i> | <u>Moderator:</u> Giles Palmer | 23/9/2026 5:00 p.m. – 7:40 p.m. |
| | Training and Management Giles Palmer | 23/9/2026 5:00 p.m. – 5:30 p.m. |
| | Staff Recruitment /Worldwide Embryologists Status Joe Conaghan | 23/9/2026 5:30 p.m. – 5:50 p.m. |
| | Responsibilities/Occupational Demands Kathryn Go | 23/9/2026 5:50 p.m. – 6:10 p.m. |
| | Conflict resolution Andrew Thompson | 23/9/2026 6:10 p.m. – 6:30 p.m. |
| | Continuing professional development and how to navigate your career as a Clinical Embryologist Julia Paget | 23/9/2026 6:30 p.m. – 6:50 p.m. |
| | Wellbeing and Burn-out in the IVF Laboratory Shaista Sadruddin | 23/9/2026 6:50 p.m. – 7:10 p.m. |
| | Discussion with experts | 23/9/2026 7:10 p.m. – 7:40 p.m. |
| <u>Written exams on Modules 5-11</u> (The examination platform will open September 25th, 2026, at 7:00 p.m. and will close on October 2nd, 2026, at 7:00 p.m.) | | |