

# Advanced Course in Clinical Embryology

Academic Year 2024-2025



## Programme of Teaching Module 1

*"Human Reproduction: Physiology, Pathophysiology and Recent Advances"*

Submodule	Lecture-Speakers	Date-Time
Scientific & Academic Director Welcome	Welcome-Aims <i>Mara Simopoulou</i>	2/10/2024 5:00 p.m – 5:15 p.m
Opening Lecture	On the future of assisted reproduction: Lessons from the past <i>Jacques Cohen</i>	2/10/2024 5:15 p.m – 6:00 p.m
1.1	Physiology of the female reproductive system <i>Byron Asimakopoulos</i>	2/10/2024 6:00 p.m – 7:00 p.m
1.2	Female Infertility: Aetiology and management strategies <i>Ippokratis Sarris</i>	9/10/2024 5:00 p.m – 6:00 p.m
1.3	Physiology of the male reproductive system <i>Francesco Lotti</i>	9/10/2024 6:00 p.m – 7:00 p.m
1.4	Male Infertility: Aetiology and management strategies <i>To be confirmed</i>	16/10/2024 5:00 p.m – 6:00 p.m
1.5	Ovarian stimulation in the era of personalized and precision medicine <i>Theodoros Kalampokas</i>	16/10/2024 6:00 p.m – 7:00 p.m
1.6	Diminished ovarian reserve from bench to bedside <i>Panagiotis Drakopoulos</i>	23/10/2024 5:00 p.m – 6:00 p.m
1.7	Recurrent Miscarriage and Recurrent Implantation Failure: How far have we come? <i>Petros Drakakis</i>	23/10/2024 6:00 p.m – 7:00 p.m
1.8	Embryo and Endometrium: A complex relationship <i>Irene Souter</i>	30/10/2024 5:00 p.m – 6:00 p.m
1.9	The role of Nutrition and Metabolic Factors on Human Reproduction and MAR <i>Chavarro Jorge</i>	30/10/2024 6:00 p.m – 7:00 p.m
1.10	Embryo Transfer: Evidence based clinical practice <i>Nikos Christoforidis</i>	30/10/2024 7:00 p.m – 8:00 p.m

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## **Programme of Teaching Module 2**

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

<b>Submodule</b>	<b>Lecture-Speakers</b>	<b>Date-Time</b>
2.1	Organization and management on setting up an Assisted Reproduction Unit <i>Despina Tzanakaki</i>	<b>6/11/2024</b> 5:00 p.m – 6:00 p.m
2.2	Organization, management, and Standard operating procedures (SOPs) for the Embryology Laboratory <i>Giles Palmer</i>	<b>6/11/2024</b> 6:00 p.m – 7:00 p.m
2.3	Organization, management, and Standard operating procedures (SOPs) for the Andrology Laboratory <i>Evangelini Evgeni</i>	<b>13/11/2024</b> 5:00 p.m – 6:00 p.m
2.4	Organization, management, and Standard operating procedures (SOPs) for Cryopreservation Banks <i>Alexia Chatziparasidou</i>	<b>13/11/2024</b> 6:00 p.m – 7:00 p.m
2.5	Quality control and crisis management in the IVF laboratory <i>Chelsey Leisinger</i>	<b>20/11/2024</b> 5:00 p.m – 6:00 p.m
2.6	Inspecting an IVF Laboratory <i>Gerry Celia</i>	<b>27/11/2024</b> 5:00 p.m – 6:00 p.m
2.7	Data, data, data. The past, present and future of data management in IVF <i>Jaques Cohen</i>	<b>27/11/2024</b> 6:00 p.m – 7:00 p.m

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## Programme of Teaching Module 3

*“Semen Analysis, Sperm Preparation and Evaluation of Sperm Quality and Functionality”*

Submodule	Lecture-Speakers	Date-Time
3.1	Standardized Semen Analysis: Lessons for novice and experts <i>Betsy Cairo</i>	4/12/2024 5:00 p.m – 6:00 p.m
3.2	Sperm morphology assessment by strict criteria <i>Betsy Cairo</i>	4/12/2024 6:00 p.m – 7:00 p.m
3.3	Semen Analysis: Ancillary tests <i>George Liperis</i>	4/12/2024 7:00 p.m – 8:00 p.m
3.4	Automated analysis of sperm diagnostics and selection for therapeutics: CASA and Beyond <i>Meurig Gallagher</i>	11/12/2024 5:00 p.m – 6:00 p.m
3.5	Optimal management of ejaculate and non-ejaculate originating spermatozoa for ART purposes <i>Michael Carroll</i>	11/12/2024 6:00 p.m – 7:00 p.m
3.6	The role of patient's history and sperm preparation techniques for diagnostic and ART purposes <i>Stamatis Papaharitou</i>	11/12/2024 7:00 p.m – 8:00 p.m
3.7	Latest research in andrology <i>Ralf Henkel</i>	18/12/2024 5:00 p.m – 6:00 p.m
3.8	Advanced semen tests <i>Dolores Lamb</i>	18/12/2024 6:00 p.m – 7:00 p.m
3.9	Contributions of the Male Gamete to the Embryo and Offspring <i>Dolores Lamb</i>	18/12/2024 7:00 p.m – 8:00 p.m

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## **Programme of Teaching Module 4**

*“Novel Techniques and Approaches in Gamete, Embryo, Testicular and Ovarian Tissue Cryopreservation”*

<b>Submodule</b>	<b>Lecture-Speakers</b>	<b>Date-Time</b>
4.1	How understanding basic cryobiology can help us improve outcomes <i>Kimball O. Pomeroy</i>	<b>8/1/2025</b> 5:00 p.m – 7:00 p.m
4.2	Safety in human reproductive cell cryopreservation <i>Lodovico Parmegiani</i>	<b>8/1/2025</b> 7:00 p.m – 8:00 p.m
4.3	Cryostorage safety: validation, quality control and best practices <i>Kimball O. Pomeroy</i>	<b>15/1/2025</b> 5:00 p.m – 6:00 p.m
4.4	Factors Affecting Vitrification Success <i>Kimball O. Pomeroy</i>	<b>15/1/2025</b> 6:00 p.m – 7:00 p.m
4.5	Oocyte and embryo cryopreservation <i>Laura Rienzi</i>	<b>22/1/2025</b> 5:00 p.m – 6:00 p.m
4.6	Frozen Embryo Transfer: Optimizing the Outcome <i>Eman Elgindy</i>	<b>22/1/2025</b> 6:00 p.m – 7:00 p.m
4.7	Ovarian tissue cryopreservation: Where are we today? <i>David Albertini</i>	<b>29/1/2025</b> 5:00 p.m – 6:00 p.m
4.8	Testicular tissue cryopreservation: Where are we today? <i>Elena Kontogianni</i>	<b>29/1/2025</b> 6:00 p.m – 7:00 p.m

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## **Programme of Teaching Module 5** *"Insemination Methods and Personalized Medicine"*

<b>Submodule</b>	<b>Lecture-Speakers</b>	<b>Date-Time</b>
5.1	Insemination methods an Overview of IUI, IVF, ICSI and specialized equipment <i>Jackson Kirkman-Brown</i>	<b>5/2/2025</b> 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 <i>Lodovico Parmegiani</i>	<b>5/2/2025</b> 6:00 p.m – 7:00 p.m
5.3	Intracytoplasmic Sperm Injection (ICSI): Technique and technical aspects <i>Mina Alikani</i>	<b>12/2/2025</b> 5:00 p.m – 6:00 p.m
5.4	Evaluation of insemination outcomes <i>Nikica Zaninovic</i>	<b>12/2/2025</b> 6:00 p.m – 7:00 p.m
5.5	ICSI for All? <i>Mina Alikani</i>	<b>19/2/2025</b> 5:00 p.m – 6:00 p.m
5.6	Artificial oocyte activation: From basic research to clinical practice <i>Karl Swann</i>	<b>19/2/2025</b> 6:00 p.m – 7:00 p.m
5.7	Understanding the oocyte and decoding its competence <i>Federica Franciosi</i>	<b>26/2/2025</b> 5:00 p.m – 6:00 p.m
5.8	How to select the best insemination method: Evidence Based Clinical Practice <i>Gemma Arroyo</i>	<b>26/2/2025</b> 6:00 p.m – 7:00 p.m

### Written exams on Modules 1-5

(The examination platform will open on February 28<sup>th</sup>, 2025, at 7:00 p.m and will close on March 7<sup>th</sup>, 2025, at 7:00 p.m)

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## **Programme of Teaching Module 6** *“Understanding the Embryo and Culture Systems: Mapping of state-of-the-art Equipment and Protocols”*

<b>Submodule</b>	<b>Lecture-Speakers</b>	<b>Date-Time</b>
6.1	Physiology and development of the preimplantation embryo <i>Mara Simopoulou</i>	<b>5/3/2025</b> 5:00 p.m – 6:00 p.m
6.2	The pyramid of successful implantation <i>Laura Rienzi</i>	<b>5/3/2025</b> 6:00 p.m – 7:00 p.m
6.3	Metabolism of the preimplantation embryo <i>Roger Sturmey</i>	<b>12/3/2025</b> 5:00 p.m – 6:00 p.m
6.4	Culture media in IVF <i>Dean Morbeck</i>	<b>12/3/2025</b> 6:00 p.m – 7:00 p.m
6.5	Embryo culture incubators <i>Jason E. Swain</i>	<b>19/3/2025</b> 5:00 p.m – 6:00 p.m
6.6	Time-lapse imaging technology in the IVF laboratory <i>Marcos Meseguer</i>	<b>19/3/2025</b> 6:00 p.m – 7:00 p.m
6.7	The epigenetics of blastocyst culture <i>Alan Handyside</i>	<b>26/3/2025</b> 5:00 p.m – 6:00 p.m
6.8	Embryo Culture: Past, Present and Future <i>David Gardner</i>	<b>2/4/2025</b> 8:00 a.m – 9:00 a.m

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## **Programme of Teaching Module 7**

*“Basic Knowledge and Recent Advances on Embryo Quality and Evaluation:  
From Embryo Morphology to Artificial Intelligence”*

<b>Submodule</b>	<b>Lecture-Speakers</b>	<b>Date-Time</b>
7.1	Embryo selection <i>David Gardner</i>	2/4/2025 9:00 a.m – 10:00 a.m
7.2	The making of the blastocyst <i>Giovanni Coticchio</i>	9/4/2025 5:00 p.m – 6:00 p.m
7.3	Novel approaches in oocyte and preimplantation embryo evaluation and automation in MAR <i>Alejandro Chavez-Badiola</i>	9/4/2025 6:00 p.m – 7:00 p.m
7.4	Embryo identification <i>Irene Dimitriadis</i>	23/4/2025 5:00 p.m – 6:00 p.m
7.5	Non-invasive selection of embryo viability: The value of the embryo’s metabolic blueprint <i>Denny Sakkas</i>	23/4/2025 6:00 p.m – 7:00 p.m
7.6	Artificial intelligence in the IVF laboratory <i>Charles Bormann</i>	30/4/2025 5:00 p.m – 7:00 p.m
7.7	Morphokinetic evaluation of the preimplantation embryo: What is there to gain? <i>Eros Nikitos</i>	30/4/2025 7:00 p.m – 8:00 p.m

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## **Programme of Teaching Module 8**

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

<b>Submodule</b>	<b>Lecture-Speakers</b>	<b>Date-Time</b>
8.1	Genetic profile, analysis of the preimplantation embryo and novel approaches <i>Dagan Wells</i>	<b>7/5/2025</b> 5:00 p.m – 6:00 p.m
8.2	Biopsy methods, novel techniques and PGT optimal practice according to guidelines <i>Georgia Kokkali</i>	<b>7/5/2025</b> 6:00 p.m – 7:00 p.m
8.3	Preimplantation Genetic Testing for Structural Rearrangements (PGT-SR) <i>Darren Griffin</i>	<b>14/5/2025</b> 5:00 p.m – 6:00 p.m
8.4	Preimplantation Genetic Testing for Monogenic Disorders (PGT-M) <i>Joanne Traeger-Synodinos</i>	<b>14/5/2025</b> 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>	<b>21/5/2025</b> 5:00 p.m – 6:00 p.m
8.6	Embryo ploidy status and implantation: A conundrum <i>Danilo Cimadomo</i>	<b>21/5/2025</b> 6:00 p.m – 7:00 p.m
8.7	Non Invasive - PGT <i>Gary Harton</i>	<b>28/5/2025</b> 5:00 p.m – 6:00 p.m
8.8	Physiology of the preimplantation embryo post biopsy and vitrification <i>Aikaterini Chatzimeletiou</i>	<b>28/5/2025</b> 6:00 p.m – 7:00 p.m
8.9	Biological and clinical importance of mosaicism of the preimplantation embryo <i>Ioannis Georgiou</i>	<b>28/5/2025</b> 7:00 p.m – 8:00 p.m



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## **Programme of Teaching Module 9**

*“Novel Concepts and Experimental Approaches in Assisted Reproduction”*

<b>Submodule</b>	<b>Lecture-Speakers</b>	<b>Date-Time</b>
9.1	The strategic role of the clinical embryologist as a Scientist and Innovator <i>Jared Robins</i>	4/6/2025 5:00 p.m – 6:00 p.m
9.2	Novel promising concepts in clinical embryology research <i>Ioannis Sfontouris</i>	4/6/2025 6:00 p.m – 7:00 p.m
9.3	Novel approaches in fertility preservation <i>Nikolaos Vlachos</i>	4/6/2025 7:00 p.m – 8:00 p.m
9.4	Novel experimental approaches in addressing ovarian insufficiency <i>Sonia Herraiz</i>	11/6/2025 5:00 p.m – 6:00 p.m
9.5	Novel experimental approaches: Mitochondrial Replacement Therapy <i>Nuno Costa-Borges</i>	11/6/2025 6:00 p.m – 7:00 p.m
9.6	The Bioethicist's perspective on novel approaches and Add-ons offered in Assisted Reproduction <i>Heidi Mertes</i>	18/6/2025 5:00 p.m – 5:30 p.m
9.7	The Clinical Psychologist's perspective on novel approaches and Add-ons offered in Assisted Reproduction <i>Mariana Veloso Martins</i>	18/6/2025 5:30 p.m – 6:00 p.m
9.8	The future of IVF <i>Joyce Harper</i>	18/6/2025 6:00 p.m – 7:00 p.m
9.9	Advanced Maternal Age: challenges and solutions <i>Martha Luna</i>	18/6/2025 7:00 p.m – 8:00 p.m
9.10	Concerns and considerations in IVF practices <i>David Albertini</i>	25/6/2025 5:00 p.m – 7:00 p.m
9.11	Digital transformation of the IVF unit <i>Achilleas Papatheodorou</i>	25/6/2025 7:00 p.m – 8:00 p.m

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## **Programme of Teaching Module 10** “Research Methodology and Evidence Based Medicine”

<b>Submodule</b>	<b>Lecture-Speakers</b>	<b>Date-Time</b>
<b>10.1</b>	The evolution of research in female reproduction: Milestones and future goals <i>George Mastorakos</i>	<b>2/7/2025</b> 5:00 p.m – 6:00 p.m
<b>10.2</b>	Type of studies in research <i>Theodoros Sergentanis</i>	<b>2/7/2025</b> 6:00 p.m – 7:00 p.m
<b>10.3</b>	Research and statistics <i>Kimball Pomeroy</i>	<b>9/7/2025</b> 5:00 p.m – 6:00 p.m
<b>10.4</b>	Basic statistical principles for the practicing physicians and embryologists <i>Theodoros Sergentanis</i>	<b>9/7/2025</b> 6:00 p.m – 7:00 p.m
<b>10.5</b>	The value of systematic reviews and meta-analyses in ART <i>Efstratios Kolibianakis</i>	<b>16/7/2025</b> 5:00 p.m – 6:00 p.m
<b>10.6</b>	Evidence Based Medicine <i>Charalampos Siristatidis</i>	<b>16/7/2025</b> 6:00 p.m – 7:00 p.m
<b>10.7</b>	Evidence-based Clinical Embryology: it is not that simple <i>Jacques Cohen</i>	<b>23/7/2025</b> 5:00 p.m – 6:00 p.m
<b>10.8</b>	IVF add-ons: Proper research methodology and execution <i>Mara Simopoulou</i>	<b>23/7/2025</b> 6:00 p.m – 7:00 p.m

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## Programme of Teaching Module 11

*Critical Analysis Skills Assessment*

*Round Tables "Problem Based Learning Sessions"*

Critical Analysis Skills Assessment		August 2025
Round Tables	Topics-Speakers	Date-Time
Round Table I "The Dos and Don'ts of How to Run a Successful IVF Laboratory"	Instructors to be confirmed	3/9/2025 5:00 p.m – 8:00 p.m
Round Table II "Outliers: handling unusual events in the IVF laboratory"	<u>Moderator:</u> <i>Gerry Celia</i>	10/9/2025 5:00 p.m – 7:15 p.m
	Andrology-The challenge of handling different specimens <i>Liesl Nel-Themaat</i>	10/9/2025 5:00 p.m – 5:20 p.m
	Handling unusual patients-Things to watch out <i>Bryan Kloos</i>	10/9/2025 5:20 p.m – 5:40 p.m
	Oocyte freezing and thawing: What to watch out for <i>Wayne Caswell</i>	10/9/2025 5:40 p.m – 6:00 p.m
	Culture conditions-blastocyst problems: What do we need to know <i>Arthur Chang</i>	10/9/2025 6:00 p.m – 6:20 p.m
	Micromanipulation-Tips and tricks on Biopsy for challenging cases <i>Debbie Venier</i>	10/9/2025 6:20 p.m – 6:40 p.m
	PGT-A: The perspective and responsibility of the geneticist <i>Gary Harton</i>	10/9/2025 6:40 p.m – 7:00 p.m
	<i>Discussion with experts</i>	10/9/2025 7:00 p.m – 7:15 p.m

<b>Round Table III</b> <i>“The JARG’s Round Table: Insights in publishing in Reproductive Medicine”</i>	<b><u>Moderator:</u> David Albertini</b>	<b>17/9/2025</b> <b>5:00 p.m – 7:00 p.m</b>
	The Editor’s perspective: A view from the top 2 decades of change and where we are going <b>David Albertini</b>	<b>17/9/2025</b> <b>5:00 p.m – 5:25 p.m</b>
	What are the characteristics of a publishable manuscript <b>Pierre Comizzoli</b>	<b>17/9/2025</b> <b>5:25 p.m – 5:50 p.m</b>
	From the trenches: Managing the process of reviewing <b>Arthur Chang</b>	<b>17/9/2025</b> <b>5:50 p.m – 6:15 p.m</b>
	From data analysis to clinical relevance <b>Alex Quass</b>	<b>17/9/2025</b> <b>6:15 p.m – 6:40 p.m</b>
	<b>Discussion with experts</b>	<b>17/9/2025</b> <b>6:40 p.m – 7:00 p.m</b>
<b>Round Table IV</b> <i>“Training Management and Development in Clinical Embryology”</i>	<b><u>Moderator:</u> Giles Palmer</b>	<b>24/9/2025</b> <b>5:00 p.m – 7:30 p.m</b>
	Training and Management <b>Giles Palmer</b>	<b>24/9/2025</b> <b>5:00 p.m – 5:30 p.m</b>
	Staff Recruitment /Worldwide Embryologists Status <b>Joe Conaghan</b>	<b>24/9/2025</b> <b>5:30 p.m – 5:50 p.m</b>
	Responsibilities/Occupational Demands <b>Kathryn Go</b>	<b>24/9/2025</b> <b>5:50 p.m – 6:10 p.m</b>
	Conflict resolution <b>Andrew Thompson</b>	<b>24/9/2025</b> <b>6:10 p.m – 6:30 p.m</b>
	Continuing professional development and how to navigate your career as a clinical Embryologist <b>Julia Paget</b>	<b>24/9/2025</b> <b>6:30 p.m – 6:50 p.m</b>
	Wellbeing and Burn-out in the IVF Laboratory <b>Shaista Sadruddin</b>	<b>24/9/2025</b> <b>6:50 p.m – 7:10 p.m</b>
	<b>Discussion with experts</b>	<b>24/9/2025</b> <b>7:10 p.m – 7:30 p.m</b>
<b>Written exams on Modules 5-11</b> <b>(The examination platform will open September 25<sup>th</sup> , 2025, at 7:00 p.m and will close on September 30<sup>th</sup> , 2025, at 7:00 p.m)</b>		