

SECOND WORLD CONFERENCE
ON LUTEINIZING HORMONE IN ART
A GALAXY TO EXPLORE!

24-25 May 2019
Naples, Italy

FINAL PROGRAMME



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Dear Colleagues,

It is a great pleasure to welcome you to the **Second World Conference on Luteinizing Hormone in ART: A Galaxy to Explore!**

This year's event builds upon the success of our first international conference on luteinizing hormone held in 2016. Once again, it will provide a unique opportunity for researchers and medical practitioners to become better acquainted with this expanding area and to take the opportunity to interact and share experiences with colleagues. Our eminent faculty will guide you on a journey through the galaxy of evidence from basic science to clinical practice.

As your hosts, we would like to thank you for joining us here in Naples and hope that you will find this educational event scientifically stimulating, highly engaging, and enjoyable.

With kind regards,

Chairs

Carlo Alviggi
Federico II University
Naples, Italy

Peter Humaidan
Fertility Clinic, Skive Regional Hospital
Faculty of Health, Aarhus University
Aarhus, Denmark

Honorary Presidents

Giuseppe De Placido
Federico II University
Naples, Italy

Fulvio Zullo
Federico II University
Naples, Italy



GENERAL
INFORMATION

THE SECOND WORLD CONFERENCE ON LUTEINIZING HORMONE IN ART: A GALAXY TO EXPLORE!

CONFERENCE OVERVIEW

Our understanding of luteinizing hormone (LH) – including its precise role in folliculogenesis and ovulation, and its interactions with follicle-stimulating hormone (FSH) – has increased greatly in recent years. How can this new understanding best be applied in clinical practice, to improve the outcomes of assisted reproductive technology (ART)?

At the **First World Congress on Luteinizing Hormone in ART**, held in Naples in 2016, it became clear that LH supplementation could improve the reproductive outcomes of in vitro fertilization in specific subgroups of patients, namely women of advanced age (35–39 years old) and women with ovarian resistance to exogenous FSH (so-called “hyporesponders”).

The hyporesponder group comprises normogonadotrophic women who, although young and with a normal ovarian reserve, have a steady or hyporesponse to conventional FSH dosing. Hyporesponders were recently included in the new POSEIDON classification of women who have a low prognosis during ART, and it was estimated that “hyporesponse” occurs in 10–12% of women undergoing controlled ovarian stimulation.

Recent research has also confirmed that the increase in ongoing pregnancy rates observed in women of an advanced age supplemented with LH seems to be related to oocyte “quality” and endometrial receptivity driven by endometrial LH receptors, rather than to oocyte quantity.

The **Second World Conference on Luteinizing Hormone in ART** will focus on data from basic science to clinical practice regarding the physiology of the gonadotropins system and the rationale for the use of recombinant LH in ART. Participants will be guided by experts on the use of LH and on the impact of patient segmentation on clinical strategies and stimulation protocols; the latter will be discussed in light of the new POSEIDON criteria. Finally, new strategies and medical trends in ART for improving patient outcomes will be explored.

EDUCATIONAL OBJECTIVES

By attending this live educational conference, attendees will be able to:

- Evaluate the latest understanding on the physiological role of LH in inducing ovulation
- Explain the interactions between LH and FSH, and the effects on ART outcomes
- Discuss the relevance of the new POSEIDON criteria to ART for patients with low prognosis
- Develop strategies to optimally select and manage patients eligible for recombinant human LH in ART to optimize ART outcomes
- Assess the recent advances in ART and their application in clinical practice

TARGET AUDIENCE

This programme is intended for clinicians, embryologists, biologists, and scientists working in ART.

CONTINUING MEDICAL EDUCATION

The **Second World Conference on Luteinizing Hormone in ART, Naples, Italy, 24/05/2019-25/05/2019** has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with **8** European CME credits (ECMEC®s). Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

Through an agreement between the Union Européenne des Médecins Spécialistes and the American Medical Association, physicians may convert EACCME® credits to an equivalent number of *AMA PRA Category 1 Credits™*. Information on the process to convert EACCME® credit to AMA credit can be found at www.ama-assn.org/education/earn-credit-participation-international-activities.



VENUE

This conference will take place at the:

Royal Continental Hotel

Via Partenope, 38/44

80121 – Naples, Italy

LANGUAGE

The official language of this conference is English.

PARTNERSHIP

This programme was designed in partnership with the "Società Italiana di Fertilità e Sterilità e Medicina della Riproduzione" (S.I.F.E.S e MR)



CONFERENCE PROVIDER AND ORGANIZING SECRETARIAT



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Event Planet s.r.l.
 Project coordinator: Marina Morra
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CHAIRS &
FACULTY

CONFERENCE CHAIRS

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Faculty of Health, Aarhus University
Aarhus, Denmark

CONFERENCE HONORARY PRESIDENTS

Giuseppe De Placido

Federico II University
Naples, Italy

Fulvio Zullo

Federico II University
Naples, Italy

CONFERENCE NATIONAL SCIENTIFIC COMMITTEE

Carlo Alviggi

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Naples, Italy

Antonio La Marca

University of Modena and Reggio Emilia
Eugin Clinic
Modena, Italy

Nicola Colacurci

Second University of Naples
Naples, Italy

Fulvio Zullo

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Naples, Italy

Giuseppe De Placido

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Naples, Italy

CONFERENCE LOCAL SCIENTIFIC COMMITTEE

Coordinators

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Naples, Italy

Pasquale De Rosa

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Giuseppina Cioffi

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CONFERENCE FACULTY

Antoine Abu-Musa
American University of Beirut
Beirut, Lebanon

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Ernesto Bosch
IVI-RMA
Valencia, Spain

Alessandro Conforti
Federico II University
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Sandro C. Esteves
Androfert – Andrology and
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Renato Fanchin
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Paris, France

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Michaël Grynberg
Antoine Béclère Hospital
Clamart, France

Peter Humaidan
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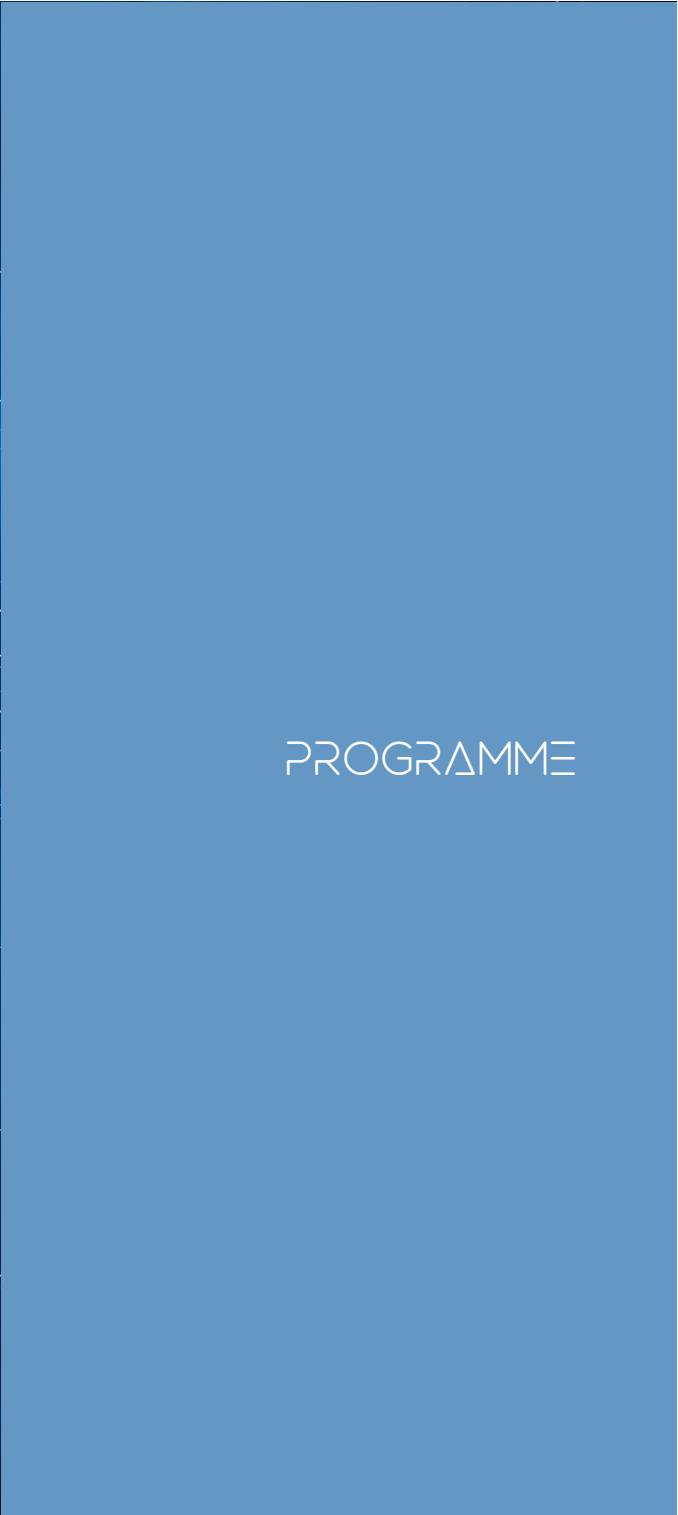
Raoul Orvieto
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Assisting Nature
Thessaloniki, Greece

Manuela Simoni
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Filippo M. Ubaldi
G.E.N.E.R.A. Centre for Reproductive Medicine
Rome, Italy

Fulvio Zullo
Federico II University
Naples, Italy



PROGRAMME

PROGRAMME

Day 1 – Friday, 24 May 2019

8:15 – 9:00

Registration

9:00 – 9:15

Welcome and introduction

Carlo Alviggi (Italy) and Peter Humaidan (Denmark)

9:15 – 9:40



Welcome lecture - Healthcare: a universal need

Antoine Abu-Musa (Lebanon)

Session I

Moving away from Earth: lessons from the gonadotropins system

Chairs: Carlo Alviggi (Italy) and Robert Fischer (Germany)

9:40 – 9:50



Real-time voting app

9:50 – 10:15



Gonadotropins during natural cycles: the galaxy we know

Manuela Simoni (Italy)

10:15 – 10:40



Follicular waves during the natural cycle: rationale for double ovarian stimulation

Filippo M. Ubaldi (Italy)

10:40 – 11:00



Refreshment break

11:00 – 11:25



Relative gonadotropins deficiency in COS: the natural space for LH supplementation

Peter Humaidan (Denmark)

11:25 – 11:50



Impact of genetics on ovarian sensitivity: the black hole of COS

Alessandro Conforti (Italy)

11:50 – 12:15



The relativity theory of ovarian aging

Ernesto Bosch (Spain)

12:15 – 12:25



Revisiting real-time voting app

PROGRAMME

12:25 – 13:15  **Discussion**

13:15 – 14:15  **Lunch**

Session II

Flying through the stars: the impact of patient segmentation on therapeutic strategies

Chairs: Michaël Grynberg (France) and Peter Humaidan (Denmark)

14:15 – 14:25  **Real-time voting app**

14:25 – 14:50  **The periodic comet of POR: the novel POSEIDON classification**

Sandro C. Esteves (Brazil)

14:50 – 15:15  **Orbiting around clinical practice: is there a role for LH in POSEIDON groups 1 and 2?**

Carlo Alviggi (Italy)

15:15 – 15:40  **The planet of low ovarian reserve: how can we best manage POSEIDON groups 3 and 4?**

Robert Fischer (Germany)

15:40 – 16:00  **Refreshment break**

16:00 – 16:25  **The meteor shower of PCOS: potential role of AMH and AMH isoforms**

Claus Y. Andersen (Denmark)

16:25 – 16:50  **The nebula of impaired oocyte maturation: is the dual triggering an option?**

Raoul Orvieto (Israel)

16:50 – 17:00  **Revisiting real-time voting app**

17:00 – 17:50  **Discussion**

17:50 – 18:00  **Concluding remarks for Day 1**
Peter Humaidan (Denmark)










PROGRAMME

Day 2 – Saturday, 25 May 2019

Session III

A new universe to explore: new medical trends in ART

Chairs: Claus Y. Andersen (Denmark) and Sandro C. Esteves (Brazil)

- 9:30 – 9:40  **Real-time voting app**
- 9:40 – 10:05  **Ovarian reserve tests: are we ready to move to objective criteria?**
Renato Fanchin (France)
- 10:05 – 10:30  **Ovarian reserve evaluation: beyond the galaxy of ART**
Fulvio Zullo (Italy)
- 10:30 – 10:55  **New strategies for preventing the LH surge during stimulation: an unexplored system?**
Evangelos G. Papanikolaou (Greece)
- 10:55 – 11:20  **Ovulation triggering: the big bang of an adequate luteal phase**
Peter Humaidan (Denmark)
- 11:20 – 11:30  **Revisiting real-time voting app**
- 11:30 – 12:20  **Discussion**
- 12:20 – 12:30  **Concluding remarks**
Carlo Alviggi (Italy)
- 12:30  **Adjournment and lunch**



Lecture



FACULTY
DISCLOSURES

FACULTY DISCLOSURES

As an independent medical education provider, it is the policy of Ology Medical Education that anyone who controls the content of an activity (e.g. faculty, instructors, and planners) discloses any real or apparent conflicts of interest relating to the topics of the activity prior to participation.

The faculty reported the following financial or product/device-related relationships and/or discussions of investigational or non-EMEA/FDA-approved (off-label) drug uses they or their spouse/life partner have with commercial interests related to the content of this educational activity:

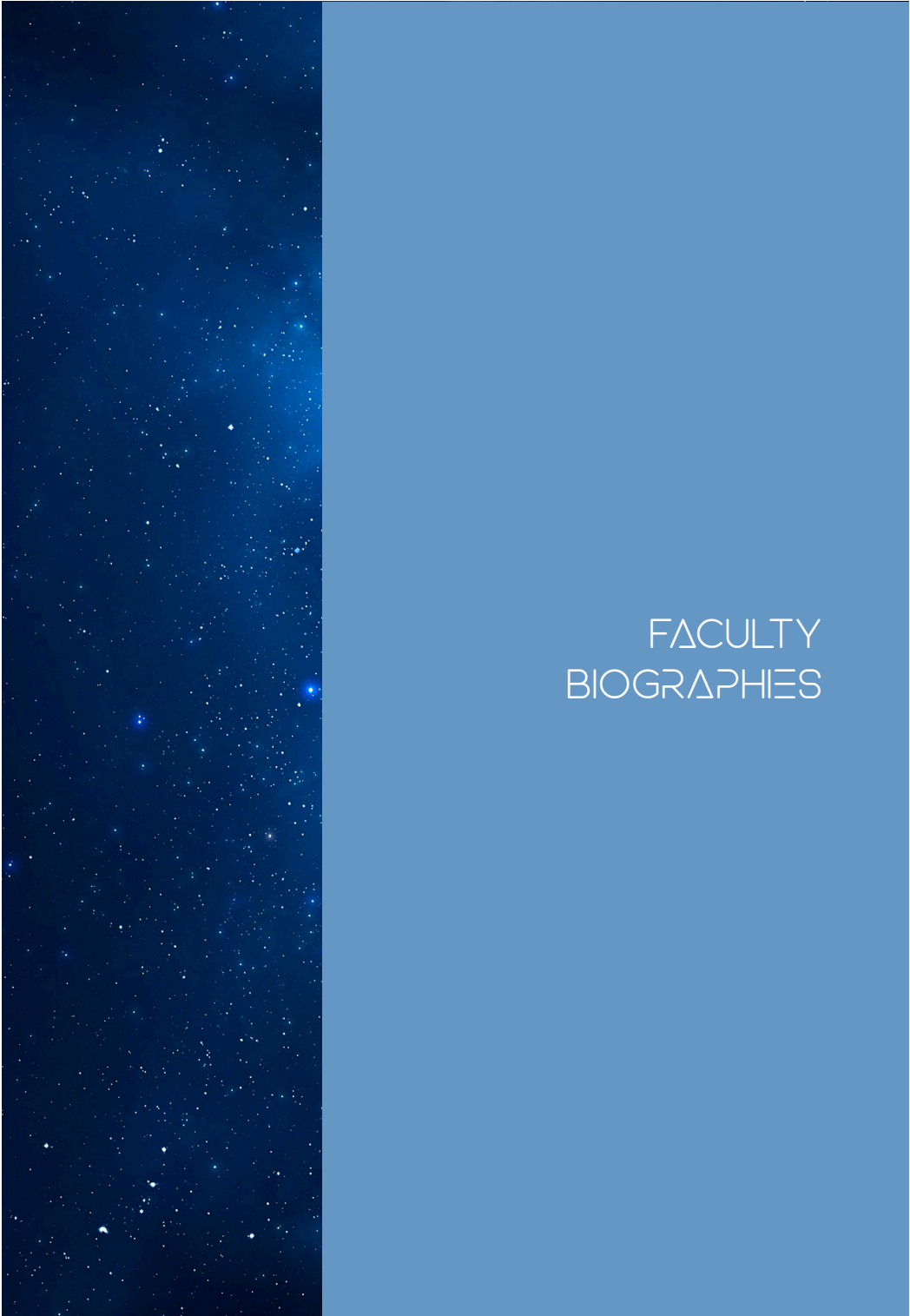
Antoine Abu-Musa	has declared no potential conflict of interest.
Carlo Alviggi	has declared: participation in a speakers bureau for Event Planet, EXCEMED, IBSA and Merck; provision of services as consultant/advisor for Event Planet, EXCEMED and IBSA; and receipt of research grants from Merck.
Claus Y. Andersen	has declared no potential conflict of interest.
Ernesto Bosch	has declared: participation in a speakers bureau for Ferring, Gedeon Richter, Merck, MSD and Roche; provision of services as a consultant/advisor for Abbott, Ferring, Gedeon Richter, Merck, and Roche; and receipt of research grants from Abbott and Gedeon Richter.
Alessandro Conforti	has declared no potential conflict of interest.
Sandro C. Esteves	has declared: participation in a speakers bureau for Gedeon Richter, Lilly and Merck; provision of services as a consultant/advisor for Merck; and receipt of research grants from Merck.
Renato Fanchin	has declared no potential conflict of interest.
Robert Fischer	has declared: receipt of speaker honoraria from Merck.
Michaël Grynberg	has declared no potential conflict of interest.

FACULTY DISCLOSURES

Peter Humaidan	has declared: receipt of honoraria for lectures from Gedeon Richter, IBSA, Merck and MSD; and receipt of unrestricted research grants from Ferring, Gedeon Richter, Merck and MSD.
Raul Orvieto	has declared no potential conflict of interest.
Evangelos G. Papanikolaou	has declared no potential conflict of interest.
Manuela Simoni	has declared no potential conflict of interest.
Filippo M. Ubaldi	has declared: receipt of speaker fees from EXCEMED, Flam, IBSA, Merck, and MSD; receipt of research grants from Finox (FORWARD 2016) and Merck (Fertility Innovation and Investigator Sponsored Trial) and receipt of royalties as a stock shareholder from Flam and G.E.N.E.R.A Health Care.
Fulvio Zullo	has provided no information regarding significant relationship with commercial supporters and/or discussion of investigational or non-EMEA/FDA approved (off-label) uses of drugs as of 06 Maggio 2019







FACULTY
BIOGRAPHIES



ANTOINE ABU-MUSA

American University of Beirut
Beirut, Lebanon

Antoine Abu-Musa is currently Vice-Chair of the Department of Obstetrics and Gynecology; Head of the Reproductive Endocrinology and Infertility Division of the Department of Obstetrics and Gynecology; and Director of the Reproductive Endocrinology and Infertility Fellowship Program of the Department of Obstetrics and Gynecology, all at the American University of Beirut Medical Center in Beirut, Lebanon. He received his MD from the American University of Beirut, in 1984, following this with a residency in the Department of Obstetrics and Gynecology at the American University of Beirut Medical Center from 1984 to 1987 and a fellowship in Reproductive Endocrinology and Infertility at Shimane Medical University in Japan from 1987 to 1993. He received his PhD degree from Shimane Medical University in Japan in 1993, then joined the Department of Obstetrics and Gynecology at the American University of Beirut as Assistant Professor, becoming full Professor in 2010.

Professor Abu Musa's research has focused on studying the effect of war on reproduction and infertility. He is President of the Lebanese Society of Obstetrics and Gynecology, and has published widely on infertility, with more than 80 publications in peer-reviewed journals.



CARLO ALVIGGI

Federico II University
Naples, Italy

Carlo Alviggi earned his MD degree in 1994, from the Faculty of Medicine of the University of Naples "Federico II" in Naples, Italy; he specialized in obstetrics and gynaecology in 1998, and gained a PhD in 2001, from the same university. During his career, he collaborated with: The Imperial College of London, in London, UK; the Laboratory of Immunology of the Italian National Research Council in Naples; and the Autoimmunity and Tolerance Laboratory of the University of California in Los Angeles, CA, USA. This network resulted in various publications, some of which concern new hypotheses on the pathogenesis of pelvic endometriosis. He is now an associate professor in reproductive medicine at the Fertility Unit of the University of Naples "Federico II".

Professor Alviggi's current research interests are the role of luteinizing hormone (LH) in folliculogenesis; the use of LH-containing drugs in patients undergoing ovarian controlled stimulation for IVF; the pathogenesis of pelvic endometriosis; oncofertility; reproductive endocrinology; and the genetics of human reproduction. He has participated in several national and international (phase 2 and 3) multicentric, prospective randomized trials.

Professor Alviggi has published extensively and has been invited to lecture at over 100 international meetings dealing with reproductive medicine and gynaecological endocrinology; he has also served as an ad hoc reviewer for international journals in these fields.



CLAUS Y. ANDERSEN

University of Copenhagen
Copenhagen, Denmark

Claus Yding Andersen is Scientific Director of the Laboratory of Reproductive Biology at the University Hospital of Copenhagen, Denmark, and Professor of Human Reproductive Physiology within the Faculty of Health and Medical Sciences at the University of Copenhagen. He graduated with an MSc in 1979 and a DMSc doctoral degree in 1997.

Professor Andersen was a member of the team that introduced IVF to Denmark in the mid-1980s and has worked as a consultant in more than 10 fertility clinics nationally and internationally. During the past 20 years, he has headed a national programme of cryopreservation of human ovarian and testicular tissue. He is considered one of the pioneers in this field, and continues to expand the indications for the use of ovarian tissue cryopreservation in different clinical settings.

Professor Andersen's major research contributions have been in: ovarian endocrinology; oocyte maturation; cryopreservation of gonadal tissue; human embryonic stem cells; and the development of new principles for ovarian stimulation, including the introduction of the agonist trigger and novel approaches to luteal-phase support.

Professor Andersen has published more than 350 peer-reviewed scientific papers. He is a much-requested international lecturer and gives around 30 international lectures annually. His current h-index is 66, with more than 14,500 citations. He is currently chief editor of the reproduction section of the Frontiers in Endocrinology open science technology platform.



ERNESTO BOSCH

IVI-RMA
Valencia, Spain

Ernesto Bosch is Medical Director of the Human Reproduction Unit of the Valencia Infertility Institute in Valencia, Spain, a position he has held since May 2010. He graduated from the medical school of the University of Valencia in 1992; this was followed by extensive training and experience in obstetrics, gynaecology, and reproductive medicine. The subject of his doctoral thesis, completed cum laude in 1999, was the influence of luteinizing hormone on oocyte quality. He has a Master's degree in Research on Health Sciences and an MBA in Healthcare Management.

Dr Bosch received the Scientific Program Prize Paper Award at the 2008 Annual Meeting of the American Society for Reproductive Medicine (ASRM). He is a member of the special interest group on reproductive endocrinology of the European Society of Human Reproduction and Embryology (ESHRE) and was a national representative of the Spanish clinicians on the ESHRE committee from 2014 to 2016.

Dr Bosch has published 62 papers in peer-reviewed journals and written more than 50 book chapters in the field of in vitro fertilization; he serves on the editorial board of *Fertility and Sterility* and *Reproductive BioMedicine Online*. He has given over 250 lectures at international meetings around the world.



ALESSANDRO CONFORTI

Federico II University
Naples, Italy

Alessandro Conforti received his MD in 2009 and in 2010 became Clinical Visitor of the In Vitro Fertilization (IVF) Department of Hammersmith Hospital, London, UK, directed by Dr Stuart Lavery. During his specialization training from 2012 to 2013, he worked in the Minimally Invasive Therapy Unit & Endoscopy Training Centre at the Royal Free Hospital in London, UK, as Clinical Research Fellow, under the guidance of Consultant Gynaecologist Mr Adam Magos. During this period, he also worked as Clinical Research Fellow in the Fetal Medicine Unit at the Royal Free Hospital under the guidance of Head of Unit Mr Demetrios Economides. Dr Conforti specialized in obstetrics and gynaecology in 2015. In 2017, he received his PhD from the University of Naples "Federico II" in Naples, Italy, with a thesis on neuroscience and reproductive medicine focused on the role of genetic variants of gonadotropins and their receptors in controlled ovarian stimulation.

Dr Conforti's research interests include minimally invasive and reproductive gynaecological surgery, reproductive medicine, reproductive genetics, assisted reproductive technology, and oncofertility. He has served as an ad hoc reviewer for many international journals and is the author or co-author of several articles published in international peer-reviewed journals.



SANDRO C. ESTEVES

Androfert – Andrology and Human
Reproduction Clinic
Campinas, Brazil

Sandro C. Esteves is Medical Director of Androfert – Andrology and Human Reproduction Clinic, a referral fertility centre for male reproduction in Campinas, Brazil. He received his MD from the University of Campinas (UNICAMP) in 1990, where he also undertook residency training in urology. He completed his training at the Cleveland Clinic's Center for Reproductive Medicine in the USA from 1995 to 1996 and received his MSc in surgery from UNICAMP in 1998 and his PhD in urology from the Federal University of São Paulo, Brazil, in 2001.

Dr Esteves' research and clinical interests include: male infertility and microsurgery; reproductive endocrinology; in vitro fertilization cleanroom technology; and quality management. He has 20 years' experience directing a busy fertility centre providing a full range of diagnostic and treatment services. His academic appointments include being a collaborating professor in the Department of Surgery at the University of Campinas and an honorary professor of reproductive endocrinology at the Faculty of Health, Aarhus University, Denmark.

Dr Esteves has authored over 200 scientific papers in peer-reviewed journals and over 80 chapters in textbooks; he is Associate Editor of *Frontiers in Endocrinology – Reproduction* and *International Brazilian Journal of Urology*. His current h-index is 41.



RENATO FANCHIN

Clinique La Mulette
Paris, France

Renato Fanchin is specialized in obstetrics and gynaecology and reproductive medicine, having focused his academic and clinical activities on reproductive medicine for almost 30 years. Professor Fanchin received his PhD from the University of Paris — XI in Orsay, France, in 2005 and led the Center for Reproductive Medicine at Antoine Béclère Hospital in Clamart, France, from 2002 to 2016. Between 2016 and 2018, he then managed the Center of Reproductive Medicine at Hospital Foch in Suresnes, France.

Professor Fanchin's current research interests include the assessment of ovarian follicular status, ovarian aging, and controlled ovarian hyperstimulation strategies. He has been invited to speak at more than 250 international meetings, is a member of the Society for Gynecologic Investigation (SGI), and was awarded the Society for Assisted Reproductive Technology (SART) Prize Paper by the American Society for Reproductive Medicine (ASRM) in 1999. In collaboration with colleagues, Professor Fanchin has published almost 200 peer-reviewed articles in international journals.



ROBERT FISCHER

Fertility Center Hamburg
Hamburg, Germany

Robert Fischer is the founder and Medical Director of the Fertility Center Hamburg (FCH) in Hamburg, Germany. Dr Fischer trained in obstetrics and gynaecology at the University Hospital of Münster, Germany, from 1979 to 1982 and at the Queen's Medical Centre, University of Nottingham, UK.

In 1983, Dr Fischer pioneered the first German outpatient IVF unit in Hamburg and became its Medical Director. The unit moved to a new location in 1998, and its name was changed to the "Fertility Center Hamburg". In July 1998, the Fertility Center Hamburg was one of the first centres, both in Germany and worldwide, to introduce quality management, and it was certified according to the ISO 9001 and accredited for IVF laboratories (ISO 17025).

Dr Fischer's main research interests are in the development of stimulation protocols, luteinizing hormone supplementation, and gonadotropin-releasing hormone agonist triggering, as well as further development of quality management systems in IVF centres. He is a founding member of the European Society of Human Reproduction and Embryology (ESHRE); a founding member of the POSEIDON (Patient Oriented Strategies Encompassing Individualized Oocyte Number) group; and a member of the scientific committee of Excellence in Medical Education (EXCEMED) (formerly the Sero Symposia International Foundation).



MICHAËL GRYNBERG

Antoine Béclère Hospital
Clamart, France

Michaël Grynberg is an internationally known, board-certified specialist in obstetrics and gynaecology, reproductive endocrinology and infertility, and andrology. He is Professor and Director of the Department of Reproductive Medicine and Fertility Preservation at Antoine Béclère University Hospital, Clamart, France.

Professor Grynberg's main research interests are: improving the efficiency of assisted reproductive technology; ovarian aging; and fertility-preservation strategies for cancer and non-medical conditions. His many achievements include: pioneering the technique of in vitro maturation of oocytes; reporting on the role of ZO-1 in trophoblastic cell differentiation in the human placenta; describing the Follicular Output RaTe (FORT) as a means to assess follicular responsiveness to exogenous follicle-stimulating hormone; reporting on differential regulation of ovarian anti-Mullerian hormone (AMH) by oestradiol through α - and β - oestrogen receptors; and investigating the role of AMH for preventing primordial ovarian follicle loss and fertility alteration following cyclophosphamide administration.

Professor Grynberg was a founding member of the French Society of Fertility Preservation and is currently the President Elect as well as a member of the reproductive endocrinology special interest group of the European Society of Human Reproduction and Embryology (ESHRE). He has authored 3 books, 362 scientific papers, 54 book chapters, 153 peer-reviewed publications, and 134 abstracts.



PETER HUMAIDAN

Fertility Clinic, Skive Regional Hospital
Faculty of Health, Aarhus University
Aarhus, Denmark

Peter Humaidan is a specialist in reproductive endocrinology; Professor at The Fertility Clinic at the Skive Regional Hospital, Aarhus University, in Aarhus; and Honorary Professor at Odense University, Odense, Denmark. His scientific work has focused primarily on developing individualized treatment protocols for patients with infertility. His doctoral thesis (DMSc) explored the role of luteinizing hormone (LH) during the follicular and luteal phases in controlled ovarian stimulation (COS); his main current fields of research interest are: triggering ovulation with gonadotropin-releasing hormone (GnRH) agonists; the role of LH during the follicular and luteal phase; use of GnRH antagonists; and prevention of ovarian hyperstimulation syndrome (OHSS).

Professor Humaidan is the founder of the international society The Copenhagen GnRHa Triggering Workshop Group and co-founder of the POSEIDON (Patient Oriented Strategies Encompassing Individualized Oocyte Number) group, which suggested a new stratification system for the low prognosis patient to assisted reproductive technology treatment, as well as being a board member of the European Society of Human Reproduction and Embryology (ESHRE) special interest group for endocrinology. He has authored or co-authored more than 173 articles in international peer-reviewed journals (h-index 45, Google Scholar), as well as authoring the Danish guidelines for OHSS prevention and several chapters in textbooks. Professor Humaidan has a wide international scientific network and is frequently invited to speak at international conferences.



RAOUL ORVIETO

Tel Aviv University
Tel Aviv, Israel

Raoul Orvieto is Professor of Obstetrics and Gynecology and incumbent of the Tarnesby-Tarnowski Chair for Family Planning and Fertility Regulation at the Sackler Faculty of Medicine, Tel Aviv University, Israel. Professor Orvieto is also Director of the Division of Reproductive Endocrinology and Infertility at the Sheba Medical Center Hospital – Tel Hashomer in Ramat Gan, Israel.

Professor Orvieto's scientific interests include: various aspects of controlled ovarian hyperstimulation (COH); the role of gonadotropin-releasing hormone (GnRH) analogues, and specifically GnRH agonist versus antagonist in COH for in vitro fertilization; pre-implantation genetic screening; and triggering final follicular maturation. He also focuses on several aspects of ovarian hyperstimulation syndrome: pathophysiology, prediction, prevention, and its relation to the inflammatory response.

Professor Orvieto is Co-Editor-in-Chief of *Reproductive Biology and Endocrinology* (impact factor 2.849). He has also authored or co-authored more than 300 publications in national and international journals.



EVANGELOS G. PAPANIKOLAOU

Centre of Reproduction and Genetics,
Assisting Nature
Thessaloniki, Greece

Evangelos Papanikolaou is a lecturer in the Department of Obstetrics and Gynecology at Aristotle University Thessaloniki, Greece. He received his MD from Ioannina University School of Medicine in Greece in 1994 and studied for a PhD in reproductive endocrinology at the same school in 2004 and for a PhD in reproductive medicine at the VUB, Belgium, in 2008. He was appointed to his current position in 2014 and is also an invited lecturer at Yale University in New Haven, CT, USA.

Dr Papanikolaou's research interests include: ovarian hyperstimulation syndrome; novel treatments for predicted hyper-responders in assisted reproductive technology; and the role of the endometrium in successful implantation in IVF.

Dr Papanikolaou is a member of the Hellenic Society for Reproductive Specialists, the European Society of Human Reproduction and Embryology (ESHRE), and the American Society for Reproductive Medicine (ASRM). He planned and participated in "Ischaemic disease of placenta", an International Obstetric Meeting in Thessaloniki in 2017. Dr Papanikolaou has published widely in peer-reviewed journals including *Reproductive BioMedicine Online*, *Fertility and Sterility*, and *Journal of Assisted Reproduction and Genetics*, and is a reviewer for many journals in the field of reproductive medicine and infertility. He has an h-index of 36.



MANUELA SIMONI

University of Modena and Reggio Emilia
Modena, Italy

Manuela Simoni trained as a clinical endocrinologist at the Endocrinology Unit of the University of Modena in Italy between 1982 and 1990, following this with training as a molecular endocrinologist at the Institute of Reproductive Medicine of the University of Münster in Germany. She was Professor for Endocrinology and Molecular Biology of Reproduction at the University of Münster from 1998 to 2008, being appointed to her current position as Professor of Endocrinology at the University of Modena and Reggio Emilia in 2008.

Professor Simoni's research interests are in: gonadotropin and androgen action; testicular function; male infertility; and the endocrinology and pathophysiology of reproduction. She is a member of several societies, including the European Academy of Andrology (EAA) and the European Society of Endocrinology (ESE), serving as the ESE secretary until April 2018, and is active on the editorial boards of several journals in the fields of endocrinology and reproduction. She has been Co-Editor-in-Chief of *Andrology*, the official journal of the EAA and the American Society of Andrology (ASA), since January 2017.



FILIPPO M. UBALDI

G.E.N.E.R.A. Centre for Reproductive Medicine
Rome, Italy

Filippo Maria Ubaldi is Clinical Director of the G.E.N.E.R.A. Centres for Reproductive Medicine in Rome, Marostica, Umbertide, and Naples, Italy. With academic degrees in obstetrics and gynaecology, a Master's degree in andrology and reproductive medicine, and a PhD in andrology and reproductive medicine from the VUB in Belgium, he is also deeply dedicated to educational, editorial, and clinical activities.

Dr Ubaldi has been an invited speaker at 422 national and international congresses on the topic of reproductive medicine and Scientific Coordinator of 74 congresses and courses. He was a member of the European Society of Human Reproduction and Embryology (ESHRE) executive committee from 2005 to 2009 and Chair of the 26th ESHRE Annual Meeting held in Rome in June 2010. In 2014, he received the Italian national scientific licence as Full Professor in Obstetrics and Gynaecology and was a member of the Italian Ministry of Health technical advisory board on heterologous fertilization from 2014 to 2015.

Dr Ubaldi is a co-author of 10 books on reproductive medicine, author or co-author of 146 scientific papers, and has an h-index of 43. He was editor of the treaty on reproductive medicine "Medicina della Riproduzione Umana", published in Italy in 2010.



FULVIO ZULLO

Federico II University
Naples, Italy

Fulvio Zullo graduated in medicine and surgery in 1984 from the University of Naples "Federico II" in Naples, Italy, and was accepted to a PhD course in perinatal medicine at the University of Perugia in Perugia, Italy, which he completed in 1990. In 1988, he specialized in obstetrics and gynaecology at the University of Naples "Federico II" and, between June 1988 and December 1990, he was Post-Doctoral Fellow at the Reproductive Immunology Laboratory of Eastern Virginia Medical School and at the Jones Institute for Reproductive Medicine, both in Norfolk, VA, USA. In 1994, he also specialized in general surgery at the University of Naples "Federico II".

Since 1998, Professor Zullo has been Director of a Bachelor's degree course in obstetrics at University "Magna Græcia" of Catanzaro in Catanzaro, Italy, and was appointed to Associate Professor in November 2000. Since 2006, he has also served as Director of the Operating Unit of Oncological Gynecology of the Cancer Centre of Excellence "Tommaso Campanella". Professor Zullo has been Coordinator for the PhD course in advanced research methodologies in applied surgery at the Oncology XXIV department of University "Magna Græcia" of Catanzaro since 2008.



EDUCATIONAL
OBJECTIVES

WELCOME LECTURE HEALTHCARE: A UNIVERSAL NEED



Antoine Abu-Musa
American University of Beirut
Beirut, Lebanon

Educational objectives:

- Appreciate that doctors' burnout is common and serious and understand the effect it has on patient care
- Recognize the impact doctors are experiencing in the loss of their ideal image and their empathy
- Relate the remaining need to restore empathy among doctors

NOTES



GONADOTROPINS DURING NATURAL CYCLES: THE GALAXY WE KNOW



Manuela Simoni
University of Modena and Reggio Emilia
Modena, Italy

Educational objectives:

- Discuss recent advances in the understanding of the physiology of gonadotropins
- Describe molecular and pathophysiological effects of gonadotropins and their receptors
- Explain FSH and LH dimerization: molecular pathways and possible clinical implications

NOTES



L2

FOLLICULAR WAVES DURING THE NATURAL CYCLE: RATIONALE FOR DOUBLE OVARIAN STIMULATION

Filippo M. Ubaldi

G.E.N.E.R.A. Centre for Reproductive Medicine
Rome, Italy

Educational objectives:

- Describe the physiology of the development of multiple follicular waves during the menstrual cycle
- Discuss the rationale for new ovarian stimulation protocols in increasing number of available oocytes
- Assess the evidence and clinical considerations for double ovarian stimulation as a useful strategy for improving patient outcomes

NOTES

L3

RELATIVE GONADOTROPINS DEFICIENCY IN COS: THE NATURAL SPACE FOR LH SUPPLEMENTATION

Peter Humaidan

Fertility Clinic, Skive Regional Hospital
Faculty of Health, Aarhus University
Aarhus, Denmark

Educational objectives:

- Evaluate the importance of luteinizing activity during folliculogenesis
- List possible causes of LH deficiency in COS
- Discuss relative LH deficiency in relation to the use of GnRH agonist and antagonist protocols

NOTES



IMPACT OF GENETICS ON OVARIAN SENSITIVITY: THE BLACK HOLE OF COS



Alessandro Conforti
Federico II University
Naples, Italy

Educational objectives:

- Describe the physiology and distribution of the most relevant polymorphisms of gonadotropins and their receptors
- Understand the implication of genetics in human reproduction and ovarian response
- Appraise the pharmacogenomic approach to COS

NOTES

THE RELATIVITY THEORY OF OVARIAN AGING

L5

Ernesto Bosch
IVI-RMA
Valencia, Spain

Educational objectives:

- Identify the age-related decline in fertility, and discuss the impact on both the embryo and oocyte quality
- Recognize ovarian aging as a possible cause of LH and androgen deficiency
- Review novel therapeutical strategies in women of advanced age

NOTES

ORBITING AROUND CLINICAL PRACTICE: IS THERE A ROLE FOR LH IN POSEIDON GROUPS 1 AND 2?



Carlo Alviggi
Federico II University
Naples, Italy

Educational objectives:

- State the definition of hyporesponders
- Differentiate hyporesponders from poor responders
- Identify the role of LH in POSEIDON groups 1 and 2, and discuss the clinical evidence and practical solutions for management and individualizing care

NOTES





THE METEOR SHOWER OF PCOS: POTENTIAL ROLE OF AMH AND AMH ISOFORMS

Claus Y. Andersen
University of Copenhagen
Copenhagen, Denmark

Educational objectives:

- Describe the pathophysiology of PCOS, and discuss the role of AMH isoforms
- Integrate new evidence regarding AMH measurements and diagnosis of PCOS
- Understand the fundamental considerations of how AMH secretion is governed in PCOS, and relate novel data to clinical practice

NOTES



THE NEBULA OF IMPAIRED OOCYTE MATURATION: IS THE DUAL TRIGGERING AN OPTION?



Raoul Orvieto
 Tel Aviv University
 Tel Aviv, Israel

Educational objectives:

- Identify the prevalence of impaired oocyte maturation among women undergoing ART
- Summarize the pathophysiology for oocyte maturation failure
- Discuss available therapeutic interventions including the rationale for dual triggering and evidence from clinical data/case reports

NOTES

OVARIAN RESERVE EVALUATION: BEYOND THE GALAXY OF ART

L12

Fulvio Zullo
Federico II University
Naples, Italy

Educational objectives:

- Assess which patients should get ovarian reserve testing, and identify which tests to choose
- Discuss how to implement screening in clinical practice for indications other than ART, e.g. predicting menopausal timing and reproductive lifespan
- Evaluate the application of ovarian reserve testing in fertility sparing surgery for both benign and malignant conditions

NOTES

L13

NEW STRATEGIES FOR PREVENTING THE LH SURGE DURING STIMULATION: AN UNEXPLORED SYSTEM?

Evangelos G. Papanikolaou

Centre of Reproduction and Genetics, Assisting Nature
Thessaloniki, Greece

Educational objectives:

- Describe current protocols for blocking the LH surge, and discuss the current challenges and limitations
- Review the novel strategies for preventing LH surge, e.g. long-acting GnRH antagonist protocols, and assess the evidence and applications to clinical practice

NOTES



FUNDING

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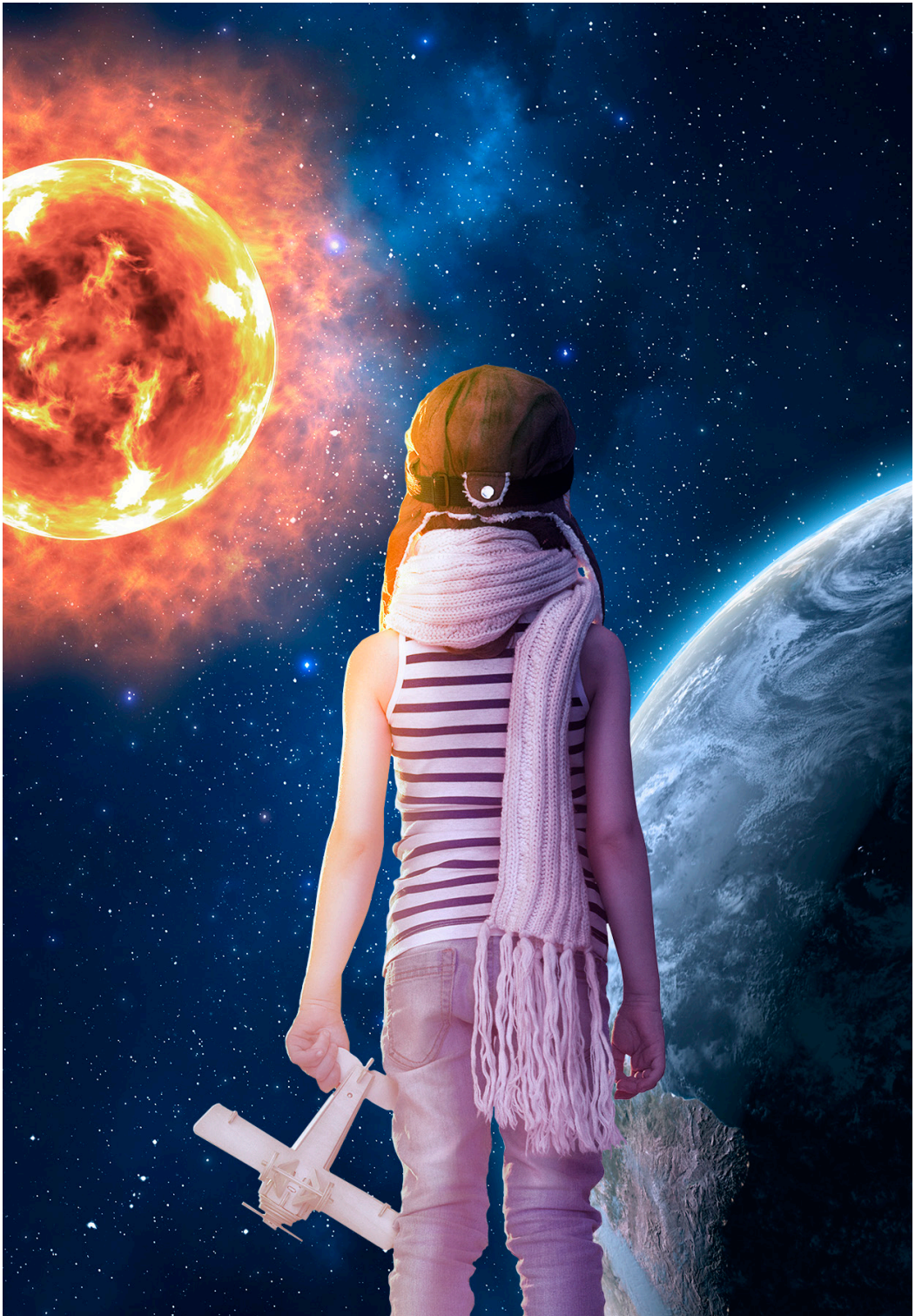
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THE IMPORTANT THING IS
NOT TO STOP QUESTIONING

CURIOSITY HAS ITS OWN
REASON FOR EXISTENCE

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