Presentation of the Ian Donald Gold Medal to Joachim Hackelöer

The Ian Donald Gold Medal is the Society’s most prestigious award because it is given to someone who has transformed the way in which we practice our specialty, either by introducing a new technique or by original research which has changed the way in which we think about our subject. This year, ISUOG has awarded the Gold Medal to Joachim Hackelöer: a worthy inheritor of this very famous medal, for his research founded the basis for ultrasound in reproductive medicine.

He was born in Marburg, Germany, in 1945. He studied medicine at the University of Marburg and received his doctorate in 1971. He studied obstetrics and gynecology in the University Hospital, Marberg between ’71 and ’78 and received advanced ultrasound training in prenatal diagnosis, with Manfred Hansmann in Bonn, and in gynecology, with Alfred Kratochwil in Vienna. At that time he would no doubt have seen an ovarian follicle demonstrated with a transvaginal probe; it was this that led him to a ‘light-bulb moment’ and his ground-breaking research. Back in Bonn, he realized that to develop his thesis he had to work with the Diasonograph, which was only available in Glasgow. Although a seemingly cumbersome ultrasound machine, it was the only one capable of providing the precise measurements required for follicle tracking. In Bonn, the equipment available was the Siemen’s Vidoson, so he persuaded Ian Donald to allow him to do his fellowship in Glasgow. His Annus Mirabilis was in 1977, with Hugh Robinson as a collaborator. At the end of his research he disappeared to the little island of Barra, off the coast of Scotland, to write his brilliant thesis entitled ‘Demonstration of Ovulation by Ultrasound’. He gained his PhD from the University of Marburg in 1978 and was appointed full Professor of Obstetrics and Gynecology 3 years later. In 1984, he was appointed Chairman of the Department of Feto-Maternal Medicine, Gynecological and Breast Ultrasound and the Prenatal Diagnostic and Therapy Centre, Barmbeck General and Teaching Hospital, in Hamburg, and was made a full Professor in the University of Hamburg 3 years later.

Joachim is extraordinary in that he is an expert in so many aspects of our specialty: fetomaternal medicine, gynecological and breast ultrasound and prenatal diagnosis and therapy including intrauterine transfusion. When Kurt Hecher joined him in The Barmberg Hospital he became accomplished at laser separation in the placenta of monochorionic twins. He is indeed a master of every aspect of Ultrasound in Obstetrics and Gynecology.

As for his unique achievements: he pioneered the measurement of the growth of the ovarian follicle. In his famous article in the American Journal of Obstetrics and Gynecology, he established normal ultrasound values for follicular diameters at their various stages of development and correlated these values with peripheral plasma hormone levels. He demonstrated an almost linear growth of mean follicular diameter prior to ovulation and a rapid decline soon afterwards. In other words, he founded the basis of ultrasound in reproductive medicine. I would like to quote from his 1978 Lancet publication: ‘With the technique, the developing cystic structures of the ovary can be seen, and the presence, number, and size of follicles determined. From results of 250 such scans in 20 cases, we deduced that ovulation induction would be successful (as shown by subsequent pregnancy) if the follicular diameter was 18–23 mm before human chorionic gonadotrophin was given. The technique could also be of value in detecting multiple follicular development and, consequently, the risk of resultant multiple pregnancy and hyperstimulation.’ This was written 38 years ago - and is still true today.

In 1980, together with Manfred Hansmann, Joachim was responsible for the introduction of routine antenatal ultrasound screening at 20 weeks in Germany – the first national screening program anywhere. This was...
remarkable; I personally was a great supporter of routine ultrasound and introduced it in my own hospital in 1970. Then, in 1974, the group in Malmö was the first to publish a study on the effects of routine ultrasound in their own hospital. The introduction of routine antenatal scanning, however, was slow to be adopted; then, suddenly, here was antenatal ultrasound screening applied to a whole nation, supported by the government and insurance companies. This set a trend in Europe for national ultrasound screening programs. It was a huge contribution by Manfred and Joachim and ensures their enduring legacy. For many years Joachim was also responsible for education and training at DEGUM, the German Ultrasound Academy, and in 1991 he became a founder member of the International Breast Ultrasound School. He has published widely on breast ultrasound which will be the subject of his talk today, and he's written a bestselling book on the subject, ‘Ultrasound Mammography’, which has gone through many editions. He has authored over 500 scientific publications. He is a former President of the German Ultrasound Society.

Finally, despite all his achievements, Joachim remains a modest, warm, generous and amusing companion and a supreme entertainer. He most ably entertained the guests at my 80th birthday dinner in the House of Commons with a Scottish song, ‘Will ye go lassie go’, on the mouth organ (see videoclip online). Joachim, the Society would be pleased if you would mount the podium, and receive our highest honor, The Ian Donald gold medal. Joachim, congratulations!

Stuart Campbell

Presentation of the Ian Donald Medal for Technical Merit to Kjell Lindström

The Ian Donald Medal for Technical Merit is given for the outstanding contribution by an individual to technical development in the field of obstetric and gynecological ultrasound. It is a great honor for me to introduce the 2016 winner of this prestigious award, Professor Kjell Lindström.

Kjell Lindström was born in northern Sweden, above the polar circle, in 1942. He studied at Lund Technical University, where he received his degree Master of Science in Engineering in 1966 and PhD in 1978. During the years 1971–1985, he was the Head of the Department of Biomedical Engineering at the University Hospital in Malmö, Sweden, and in 1985, he became Professor and Chairman at the Institute of Electrical Measurements at Lund Technical University. He succeeded in this Chair his teacher and mentor, Professor Hellmuth Hertz.

A lot of pioneering work in the field of medical ultrasound was done at Lund University. It was there that Hellmuth Hertz, engineer, and Inge Edler, cardiologist, developed echocardiography in 1953. Kjell Lindström had already begun his research in the technology of diagnostic ultrasound as a student. In 1967, together with Hellmuth Hertz, he developed a fast ultrasonic real-time scanning system for heart investigation. The equipment, called the Hertz-Lindström ultrasonic mirror system, produced initially seven, and, after further improvement, more than 18, two-dimensional images per second. In 1969, Kjell Lindström and Inge Edler recorded, for the first time, Doppler flow signals from the adult heart.

Since the mid-1960s, Kjell Lindström remained affiliated with Lund University. He was very active in research, collaborating closely with clinicians of various specialties and developing many new diagnostic methods based on ultrasound. These included a method for recording vocal-cord vibrations (echoglottography), an airborne ultrasound screening method for scoliosis, blood perfusion measurement with Doppler ultrasound and a method for recording longitudinal displacement and shear strain of the arterial wall. In 1988, he received, from the World Federation of Ultrasound in Medicine and Biology and the American Institute of Ultrasound in Medicine, the Medical Ultrasound Pioneer Award. Later, he also became Honorary Doctor at the Faculty of Medicine, Lund University.

My collaboration with Kjell Lindström started in the early 1970s, when he was the Head of the Biomedical Engineering Department and I was the registrar and research student at the Department of Obstetrics and Gynecology in Malmö. Luckily, despite the enormous load of administrative work, Kjell always gave priority to the research and development of new instruments at his worktable. The development of new ultrasound methods for research and clinics was a true interactive process, with very close contact between the engineers of Lindström’s team and the clinical users. I will never forget the very intense brainstorming meetings in Kjell’s office and his never-ending patience and enthusiasm when trying to lessen the ignorance of we clinicians in understanding the physics and techniques of ultrasound.

Kjell Lindström receiving the Ian Donald Medal for Technical Merit from Karel Maršál.
Several of the innovations and new ultrasonic devices developed by Kjell Lindström were designed for objective recording and quantification of fetal and uterine physiological activities during pregnancy. His focus on obstetric ultrasound opened up new possibilities for research in human fetal physiology, which, until the advent of ultrasound, had to depend mainly on animal experimental studies. In the early 1970s, human fetal breathing movements were recorded using A-mode ultrasound without any visual control of the origin of the received signals. Lindström developed a system, the time-distance recorder (TD-recorder) that was connected to the Vidason, at that time the only commercially available real-time mechanical ultrasound scanner. The TD-recorder measured online the changes in fetal thorax diameter caused by breathing movements. Later, when linear-array real-time systems became available, the system was refined to enable recording of the changes in vessel diameter and measurement of the pulse wave and pulse-wave velocity in the fetal descending aorta. The Diamove system was based on ultrasound pulse-tracking of the vessel walls and was also used subsequently in adults for investigations of vascular function. In the meantime, Doppler studies of fetal volume blood flow were introduced, which used static measurements of the fetal aortic diameter in frozen two-dimensional ultrasound images for calculation of flow. Kjell Lindström’s group developed a method for simultaneous recording of mean velocity from the Doppler spectrum and of the pulsating aortic diameter of the fetal aorta. In this way, the aortic volume flow could be calculated online, avoiding many of the methodological errors in estimating flow. Other examples of new methods for obstetric application include uterine cervimetry, based on the ultrasound transit time, and equipment for automatic detection and quantification of fetal movements using a transabdominal approach.

Kjell Lindström’s hobby is deep-sea fishing in the North Sea and fly fishing in Swedish rivers. It was possibly this interest in combination with his expertise in ultrasound and his fish finding ability, that led him to become involved in research on dolphins, with researchers in marine biology both in Sweden and in San Diego, in the USA.

Kjell Lindström is the leading researcher and inventor within the field of medical ultrasound in Sweden and one of the most prominent researchers internationally. It is a great pleasure for me, on behalf of the International Society of Ultrasound in Obstetrics and Gynecology, to present to him the 2016 Ian Donald Medal for Technical Merit.

Morelli prize

Professor Francesco Morelli was the director of Obstetrics and Gynecology at Capua Hospital. One of the first generation of ultrasound pioneers in Italy, he was enthusiastic and passionate about Ultrasound in Obstetrics and Gynecology. His wife, Sig.ra Carmela, and his family instituted a prize in his memory of 2000€ to be awarded to the best project in gynecological ultrasound presented by young investigators from an Italian institution. The Committee which evaluated the projects comprised Antonia Testa, Dorella Franchi and Pasquale Martinelli; the secretary is Pasquale Morelli. In 2016 the prize went to Chiara Landolfo, for the project entitled ‘Ultrasoundography and translational research in preoperative diagnosis and differentiation of adnexal lesions’.

FREE COMMUNICATION ACKNOWLEDGMENTS

The following free communications presented at the 26th World Congress on Ultrasound in Obstetrics and Gynecology are acknowledged as the best presentations in their categories. Full abstracts to these titles can be found in Ultrasound in Obstetrics & Gynecology 2016; 48 (Suppl S1). We thank these authors for their valuable contributions to our scientific program.

Top abstract winner

Fetal growth restriction induces different phenotypes of cardiac remodeling (OC01.01)

M. Rodriguez-Lopez2, M. Cruz-Lemini4, B. Valenzuela-Alcaraz1, L. Garcia-Otero2, M. Sitges5, B. Bijnens6, E. Gratacos7, E. Crispi3, 1Hospital Clinic - Universitat de Barcelona, Barcelona, Spain, 2BCNatal - Barcelona Center for Maternal Fetal and Neonatal Medicine (Hospital Clinic and Hospital Sant Joan de Deu), Barcelona, Spain, 3BCNatal - Barcelona Center for Maternal Fetal and Neonatal Medicine (Hospital Clinic and Hospital Sant Joan de Deu), Barcelona, Spain, 4BCNatal - Barcelona Center for Maternal Fetal and Neonatal Medicine (Hospital Clinic and Hospital Sant Joan de Deu), Barcelona, Spain, 5Cardiovascular Institute, Hospital Clinic, IDIBAPS, University of Barcelona, Barcelona, Spain, 6ICREA, Universitat Pompeu Fabra, Barcelona, Spain, 7BCNatal - Barcelona Center for Maternal Fetal and Neonatal Medicine (Hospital Clinic and Hospital Sant Joan de Deu), Barcelona, Spain

SIEOG prize

Does fundal pressure in the second stage (Kristeller maneuver) increase the risk of pelvic floor damage? A prospective case control study (OC04.01)

A. Youssef6, G. Salsi6, M. Paganotto6, F. Bellussi6, I. Cataneo1, G. Pacella10, C. Azzarone1, G. Morganelli6, J. Krsmanovic11, L. Cariello6, E. Montaguti8, N. Rizzo1, G. Pili6, 1Department of Obstetrics and Gynecology, Sant’Orsola-Malpighi Hospital, University of Bologna, Bologna, Italy, 2Sant’Orsola-Malpighi Hospital, University of Bologna, Bologna, Italy, 3Sant’Orsola-Malpighi Hospital, University of Bologna, Bologna, Italy, 6Obstetrics and Gynecology, University of Bologna, Bologna, Bologna, Italy, 8Obstetrics and Gynecology, University of Bologna, Bologna, Italy, 2016; 48: 809–816.

Karel Maršálek

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Young Investigator award winner – Obstetrics

Survival and neurodevelopmental effects of Lactoferrin, Docosahexaenoic acid and environmental enrichment in an IUGR animal model (OC22.01)

M. Illa1, E. Eixarch1,2, L. Pla1, E. Muñoz-Moreno1, G. Serrano1, F. Figueras1,2, E. Gratacos1,2. 1Fetal i+t+D Fetal Medicine Research Center, IDIBAPS, BCNatal | Barcelona Center for Maternal Fetal and Neonatal Medicine Hospital Clinic and Hospital Sant Joan de Déu, Universitat de Barcelona, Barcelona, Spain, 2Centre for Biomedical Research on Rare Diseases (CIBER-ER), Barcelona, Spain, 2Barcelona, Spain

Young Investigator award winner – Gynecology

Influence of ulipristal acetate therapy on uterine fibroid-related symptoms and on uterine and fibroid volume and vascularity indices assessed by ultrasound (OC23.04)

S. Baggio, F. Galeone, F. Presti, P. Pomini. Obstetrics and Gynecology, AOUI Verona, Verona, Verona, Italy

Best Oral Communications

The following oral communications were each selected as the best in their subject area. Selection was according to a combination of anonymous peer review in advance of the Congress and scores for presentation and/or scientific merit allocated on-site by a panel of judges.

Aneuploidy and fetal anomalies – second trimester

Prenatal anogenital distance is shorter in fetuses with hypospadias (OC24.04)

S. Perlman, Z. Kivilevitch, B. Messing, R. Achiron, Y. Gilboa. Prenatal Diagnostic Unit, Obstetrics and Gynecology, Sheba Medical Center, Tel-Hashomer, Ramat Gan, Israel

Fetal echocardiography, CHD and cardiac function

Cerebral oxygen delivery, brain growth and white matter maturation are reduced in congenital heart disease foetuses (OC25.01)

J. Lim1,2, P. Muthusami1, S. Madathil1, M. Zhu1,2, B. S. Saini1,2, P. Porayotte1, V. Chau6, S. Portnoy7, C. Macgowan3,7, J. G. Sled3, J. C. Kingdom2, M. Seed1, S. Miller6. 1Heart Centre, The Hospital for Sick Children, Toronto, Ontario, Canada, 2Obstetrics & Gynecology, Mount Sinai Hospital, University of Toronto, Toronto, Ontario, Canada, 3Diagnostic Imaging, The Hospital for Sick Children, Toronto, Ontario, Canada, 4Physiology, University of Toronto, Toronto, Ontario, Canada, 5Institute of Medical Science, University of Toronto, Toronto, Ontario, Canada, 6Neurology, The Hospital for Sick Children, Toronto, Ontario, Canada, 7Medical Biophysics, University of Toronto, Toronto, Ontario, Canada

Fetal interventions

In-utero treatment of congenital cytomegalovirus infection with Valacyclovir in a multicenter, open-label, phase-II study (OC15.01)


Fetal neurosonography and central nervous system anomalies

Malformations of cortical development: early prenatal ultrasound diagnosis (OC05.03)

S. Shinar1, K. K. Haratz4, Y. Salemnick1, J. Har-Toov2, Z. Leibovitz7, L. Gindes4, T. Lerman-Sagie4, G. Malinger3. 1Lis Maternity Hospital, Tel Aviv, Israel, 2US in OB&GYN, Lis Maternity Hospital, Tel Aviv, Israel, 3OB-GYN Ultrasound Unit, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel, 4Fetal Neurology Clinic, Wolfson Medical Center, Holon, Israel

Genomics

The Belgian approach to meet the challenge in interpreting prenatal microarray results (OC06.04)

J. Muys1, B. Blaumeiser1, K. Janssens3, C. Bandelier5, J. Gatot6, A. Van Den Bogaert1, J. Vermeech8, S. Rombout9, B. Menten2, B. Pichon4, K. Keymon7, K. Van Den Bogaert8, S. Janssens2, J. Cabelg8, J. Desir4, Y. Sznejder5, A. Destree9, Y. Jacquemyn1. 1Gynecology,
Abnormal uterine bleeding and fibroids

Validation of risk of endometrial cancer (REC) score for diagnosis of endometrial cancer in women with postmenopausal bleeding (OC23.01)

M. Dueholm2, I. Hjorth1, K. Dahl1, G. Ørtoft4.
1Obstetrics and Gynecology, Aarhus University Hospital Skejby, Aarhus N, Denmark,
2Department of Obstetrics and Gynecology, Aarhus University Hospital, Aarhus, Denmark,
3Aarhus University Hospital Skejby, Aarhus, Denmark,
4Aarhus University Hospital Skejby, Aarhus, Denmark

Early pregnancy complications

Urine metabolomic changes by gestational age in early pregnancy and differences in the metabolome between viable pregnancies and those that miscarry (OC13.02)

M. Al-Memar2, S. Cacciatore2, S. Bobdiwala1,2, S. Saso1, J. Farrer1, D. Timmerman3, P. Bennett1,2, D. MacIntyre3, T. Bourne1,2.
1Early Pregnancy & Acute Gynaecology Unit, Tommy’s National Miscarriage Centre, Queen Charlotte’s and Chelsea Hospital, Imperial College London, London, United Kingdom,
2Department of Surgery and Cancer, Imperial College London, London, London, United Kingdom,
3KU Leuven, Leuven, Belgium

Imaging in oncology

Ultrasound in preoperative assessment of pelvis and abdominal spread in patients with ovarian cancer: a prospective study (OC10.01)

D. Fischerová1, M. Zikan1, R. Kocian1, P. Dundr1, A. Burgetova1, L. Dusek2, D. Cibula1.
1Department of Pathology, First Faculty of Medicine and General University Hospital, Charles University, Prague, Czech Republic, 2Institute of Biostatistics and Analysis, Masaryk University, Brno, Czech Republic

Managing ovarian masses

Two-step strategy to preoperatively assess adnexal lesions not classifiable by EDs, using RMI, IOTA ADNEX or Simple Rules risk model (OC07.04)

C. Landolfo1,5, W. Froyman1,5, T. Bourne4,5, T. De Cock3, A. C. Testa2, L. Valentini6, D. Fischerová7, C. Van Holsbeke8, D. Franchi9, L. Savelli10, E. Epstein11, A. Czekierdowski12, S. Guerriero2, R. Fruisco13, F. Leone1, I. Vergote14,15, J. Verbakel1,17, B. Van Calster3, D. Timmerman3,16, 1Dept Obstetrics & Gynecology, DSC L. Sacco, Milan, Italy, 2Department of Obstetrics and Gynecology, University of Cagliari, Cagliari, Italy, 3Department of Development and Regeneration, KU Leuven, Leuven, Belgium, 4Queen Charlotte’s and Chelsea Hospital, Imperial College, London, UK; London, United Kingdom, 5Department of Oncology, Catholic University of the Sacred Heart, Rome,
Pelvic pain and endometriosis

Pelvic floor dysfunction at three-dimensional transperineal ultrasound in women affected by deep infiltrating endometriosis (OC26.03)

A. Youssef, D. Raimondo, S. del Forno, M. Mabrouk, V. Martelli, E. Montaguti, G. Pilu, A. Benfenati, R. Seracchioli. Obstetrics and Gynecology, University of Bologna, Bologna, Italy

Reproductive medicine

Prospective evaluation of impact of adenomyosis on in-vitro fertilization outcome (OC16.01)


Urogynecology

Does fundal pressure in the second stage (Kristeller maneuver) increase the risk of pelvic floor damage? A prospective case control study (OC04.01)

A. Youssef, G. Salisi, M. Paganotto, F. Bellussi, I. Cataneo, G. Pacella, C. Azzarone, G. Morgenelli, J. Krsmanovic, L. Cariello, E. Montaguti, N. Rizzo, G. Pilu. Department of Obstetrics and Gynecology, Sant’Orsola-Malpighi Hospital, University of Bologna, Bologna, Italy

Best Short Oral Presentations (oral posters)

The following short oral presentations were each selected as the best in their subject area. Selection was according to a combination of anonymous peer review in advance of the Congress and scores for presentation and/or scientific merit allocated on-site by a panel of judges.

Aneuploidy and fetal anomalies – first trimester

Abnormal sonographic appearance of posterior brain at 11–14 weeks and fetal outcome (OP25.05)

T. Fanelli, B. Muto, G. Volpe, G. Rembouskos, V. De Robertis, G. Campobasso, A. Tempesta, P. Volpe. Fetal Medicine Unit, Di Venere Hospital, Bari, Italy

Aneuploidy and fetal anomalies – second trimester

3D assessment of the umbilical vein deviation angle (UVDA) for the prediction of liver herniation in left congenital diaphragmatic hernia (OP32.03)

N. Volpe, E. Mazzzone, B. Muto, A. Suprani, T. Fanelli, C. Kihura, C. Del Rossi, T. Ghisleni, P. Volpe, T. Fusca. Fetal medicine, Di Venere and Sarcone Hospital, Bari, Italy

Education

Quality improvement programme for the routine anomaly scan using a dedicated quality-control platform (OP15.01)


Fetal echocardiography, congenital heart defects and cardiac function

Evaluation of tissue Doppler imaging (TDI) for measurement of the right fetal myocardial performance index (MPI); an international online study (OP06.06)


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Clinical and Hospital Sant Joan de Déu, Barcelona, Barcelona, Spain, 2School of Women’s & Children’s Health, University of New South Wales, Randwick, Sydney, New South Wales, Australia, 3Texas Fetal Center, University of Texas School of Medicine at Houston, Houston, Texas, United States, 4Maternal Fetal Medicine, Wayne State University, Detroit, Michigan, United States, 5Department of Maternal-Fetal Medicine, Royal Hospital for Women, Randwick, Sydney, New South Wales, Australia, 6Graduate School of Biomedical Engineering, University of New South Wales, Randwick, Sydney, New South Wales, Australia

Fetal interventions

Acute impact of fetal surgery for myelomeningocele on placental and cerebrovascular circulations (OP21.02)


Prediction for postnatal treatment of hydrocephalus in fetuses that underwent a neural tube defect (NTD) repair based on prenatal brain imaging (OP21.03)

M. Sanz Cortes1, C. Guimares2, M. Yepez1, A. Zarutskii1, N. Park1, L. M. Mack1, R. Gandhi1, A. N. Shetty1, A. Nassr1, H. Sangi-Haghpeykar1, W. Lee4, M. A. Belfort1, W. Whitehead3. 1Obstetrics and Gynecology, Baylor College of Medicine, Houston, Texas, United States, 2Radiology, Baylor College of Medicine, Houston, Texas, United States, 3Neurosurgery, Baylor College of Medicine, Houston, Texas, United States

Fetal neurosonography and central nervous system anomalies

Clinical significance of 3D HDlive silhouette/flow in neurosonobryology and fetal neurosonography (OP01.10)

R. K. Pooh. CRIFM Clinical Research Institute of Fetal Medicine PMC, Osaka, Japan

Imaging technology including MRI

Novel MRI assessment of maternal cerebral oxygen consumption and oxygen extraction during pregnancy (OP28.03)

A. N. Shetty1,2, M. Sanz Cortes1,2, M. Yepez1,2, P. Liu3, H. Lu3, K. Fox1,2, M. A. Belfort1,2, W. Lee1,2. 1Obstetrics and Gynecology, Baylor College of Medicine, Houston, Texas, United States, 2Texas Children’s Hospital Pavilion for Women, Houston, Texas, United States, 3Radiology, Johns Hopkins University School of Medicine, Baltimore, Maryland, United States

Maternal and fetal Doppler including fetal growth

Obstetric home-monitoring including CTG in complicated pregnancies: development and results of system, based on free available Open Source software (OP31.05)

O. Petersen, L. Holst. Obstetrics and Gynecology, Aarhus University Hospital Skejby, Aarhus N, Denmark

Multiple pregnancy

Customized fetal growth curves in twin pregnancies: an Italian multicenter study (OP13.01)

T. Ghi6, F. Prefumo4, E. Ferrazzi7, C. Di Pietro5, C. Celentano13, N. Chianchiano14, E. Cosmi3, A. Fichera4, S. Gabrielli2, M. Lanna7, A. Mazzocco12, E. Pappalardo8, E. Periti10, N. Persico13, T. Stampalija11, E. Viora9, P. Volpe1, G. Rizzo5. 1Department of Obstetrics and Gynecology, Di Venere Hospital, Bari, Italy, 2Department of Obstetrics and Gynecology, Policlinico S.Orsola Malpighi, Bologna, BO, Italy, 3Department of Woman and Child Health, University of Padua, Padova, Italy, 4Department of Obstetrics and Gynecology, University of Brescia, Brescia, Italy, 5Department of Obstetrics and Gynecology, University Roma Tor Vergata, Roma, Italy, 6Department of Obstetrics and Gynecology, University of Parma, Bologna, Italy, 7Department Woman Mother and Neonate, Buzzi Children’s Hospital University of Milan, Milano, Italy, 8Department of Obstetrics and Gynecology, ARNAS Garibaldi Nesima, Catania, Italy, 9Department of Obstetrics and Gynecology, Ospedale Sant’Anna, Torino, Italy, 10Unit of Maternal Fetal Medicine, Piero Palagi Hospital, Florence, Italy, 11Unit of Prenatal Diagnosis, Institute for Maternal and Child Health, IRCCS Burlo Garofolo, Trieste, Italy, 12Department of Obstetrics and Gynecology, Ospedale Montebelluna, Montebelluna TV, Italy, 13Department of Obstetrics and Gynecology, Università di Milano Fondazione Ca’ Granda, Ospedale Maggiore Policlinico, Milan, Italy, 14Department of Obstetrics and Gynecology, Ospedale Fatebenefratelli, Palermo, Italy, 15Department of Obstetrics and Gynecology, Università di Chieti, Chieti, Italy

Role of ultrasound in patient safety

Abnormally invasive placenta – prevalence, risk factors and antenatal suspicion: results from a large population-based study in the Nordic countries (OP27.04)

L. Thurn1, P. G. Lindqvist2, M. Jakobsson7, L. B. Colmorn3, K. Klungsøyr5, I. Bjarnadóttir6, A. Tapper8, P. E. Bordahl9, K. Gottvall10, K. Birch11, L. Krebs12, M. Gissler13, J. Langhoff-Roos4, K. Källén3. 1Fetal Medicine, Lund University, Karlskrona, Sweden, 2Obstetrics and Gynaecology, Karolinska University Hospital, Stockholm, Sweden, 3Lund University, Lund,
Ultrasound in term and preterm labor

Prospective study on cervical length (CL) in the first and second trimesters in a large Danish cohort (OP11.01)

C. B. Wulff1, L. Rode2, E. Hoseth3, O. Petersen1, A. Tabor2. 1Dept of Obstetrics and Gynecology, Aarhus University Hospital Skejby, Aarhus N, Denmark, 2Center of Fetal Medicine, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark, 3Fetal Medicine Unit, Obstetrics, Aalborg University Hospital, Aalborg, Denmark

Abnormal uterine bleeding and fibroids

Changes in the sonographic characteristics of adenomyosis after treatment with ulipristal acetate (OP30.04)

S. Ferrero, A. Racca, E. Tafi, C. Scala, P. L. Venturini, U. Leone Roberti Maggiore. Department of Neurosciences, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health (DiNOGMI), IRCCS AOU San Martino – IST, University of Genova, Italy, GE, Italy

Early pregnancy complications

The potential use of urinary βhCG for managing pregnancies of unknown location (PUL): correlating urinary & serum βhCG levels using two immunoassays (OP18.07)

S. Bobdiwala1, B. De Cock2, R. Harvey3, Y. Abdallah4, M. Al-Memar1, R. Fisher1, C. Stalder1, D. Timmerman1, B. Van Calster2, T. Bourne1,5. 1Tommy’s National Early Miscarriage Research Centre, Queen Charlotte’s & Chelsea Imperial College, London, United Kingdom, 2Biomedical Sciences Group, KU Leuven, Leuven, Belgium

Imaging in oncology

Early cervical cancer: can we consider TVUS an alternative to MRI in preoperative delineation of tumor extension? (OP14.01)

A. Vidal Urbinati1, L. Ottino2, S. Boveri3, V. Zanagnolo4, D. Franchi1. 1Preventive Gynaecology Unit, European Institute of Oncology, Milano, Italy, 2Gynaecologic Oncology, A.O. Mauriziano Umberto I, Turin, Italy, 3Epidemiology and Biostatics, European Institute of Oncology, Milan, Italy, 4Gynaecology, European Institute of Oncology, Milan, Italy

Managing ovarian masses

Clinical history of low-risk ovarian lesions in post-menopausal women (OP09.02)

F. Leone, A. Crepaldi, C. Personeni, R. Clauser, M. Mazzocco. Dept Obstetrics & Gynecology, DSC L. Sacco, Milan, Italy

Pelvic pain and endometriosis

Complications during pregnancy and delivery in women with untreated rectovaginal deep endometriosis (OP34.08)

L. Lazzeri1, C. Exacoustos1, I. Lariola2, G. De Felice3, E. Zupi1. 1Department of Biomedicine and Prevention, Obstetrics and Gynecology Clinic, Università degli Studi di Roma “Tor Vergata”, Rome, Italy, 2Department of Obstetrics and Gynecology, University of Parma, Parma, Italy, 3Molecular and Developmental Medicine, University of Siena, Siena, Italy

Reproductive medicine

Essure for women with hydrosalpinx before embryo transfer: a systematic review and meta-analysis (OP22.07)

M. Barbosa2, A. Sotiriadis1, S. Papatheodorou3, V. Mijatovic3, C. O. Nasti2, W. P. Martins2. 1Aristotle University of Thessaloniki, Thessaloniki, Greece, 2Department of Obstetrics and Gynecology, Ribeirao Preto Medical School, University of Sao Paulo, Ribeirao Preto, Sao Paulo, Brazil, 3Cyprus University of Technology, Limassol, Cyprus, 4VU University Medical Center, Amsterdam, Netherlands

Urogynecology

Ultrasonographic evaluation of the urethral rhabdosphincter’s morphology in female patients with urodynamic stress incontinence (OP04.01)