

## Honorary Fellow Award

The Honorary Fellow Award bestows an honorary membership upon those individuals who have contributed significantly to the field of ultrasound and in most cases whose primary residence is outside North America.



### **Simcha Yagel, MD, FAIUM**

Dr Yagel is the head of the Division of Obstetrics and Gynecology of Hadassah-Hebrew University Medical Centers in Jerusalem and the head of the Ultrasound Unit within the department. He established and directed this unit from its beginnings, becoming the unit head in 1992. He joined the staff of the Department of Obstetrics and Gynecology at Hadassah, Mt Scopus, in 1981 as a young resident, following his service in the Israeli Defense Force, where he served as a physician. He has devoted his entire career to Hadassah, other than his postdoc fellowships at the University of California, San Francisco (1992–1993), and the University of Western Ontario and University of Toronto (1987–1988). He obtained the ranks of

professor in 1994 and full professor in 1999. Having a good teacher can make all the difference in the world, and Dr Yagel is truly a teacher at heart. He has advised many students on their MD, MPH, and PhD theses. In his ultrasound unit, he teaches ultrasound examination techniques and invasive procedures. He instructs students, sonographers, and residents in his department and residents from other hospitals. Dr Yagel also teaches advanced ultrasound techniques in the School of Ultrasound of the Israel Society for Ultrasound in Obstetrics and Gynecology, Me'ir Hospital.

Dr Yagel's dedication to the field of obstetrics and gynecology is indisputable. In 1994, he founded the Obstetrics and Gynecology Research Laboratory, recently renamed the Magda and Richard Hoffman Center for Placenta Research. He is a founding member of the Israel Society of Ultrasound in Obstetrics and Gynecology and served as president from 1999 to 2002. The society works tirelessly to establish medical standards for Israel and contributes widely to the advancement of women's imaging internationally. Dr Yagel is also an active instructor in the School of Ultrasound run by the society. In 2009, he founded the Israel Society for Placenta Research with his basic research colleagues and served as its first president until 2014. The society works to provide a forum for Israeli physicians and scientists to present their work and learn from each other, to advance this fascinating field.

He has published more than 300 basic and clinical research articles in leading peer-reviewed journals, including *Science*, *Lancet*, *Nature Medicine*, *New England Journal of Medicine*, *Blood*, *Circulation*, *Journal of Clinical Investigation*, *Ultrasound in Obstetrics and Gynecology*, *American Journal of Obstetrics and Gynecology*, *Journal of Ultrasound in Medicine*, *Prenatal Diagnosis*, *PLOS One*, and numerous others. His most influential papers are those that introduced the 3-vessel and trachea view and the 5-plane approach in fetal echocardiography. This approach has been adopted by many professional organizations as part of their guidelines, including the AIUM and the International Society of Ultrasound in Obstetrics and Gynecology, as well as practitioners in South America and the Far East, and in part by the American Heart Association. His seminal work on the natural history and in utero development of

fetal cardiac anomalies changed the conversation surrounding prenatal diagnosis of congenital heart defects by showing that anomalies evolve throughout the course of gestation and may not be amenable to diagnosis during the first- or second-trimester scan or even into infancy. Dr Yagel has served as editor of *Ultrasound in Obstetrics and Gynecology*, as well as participating as an editorial board member for the *Journal of Ultrasound in Medicine*, *Journal of Ultrasound in Obstetrics and Gynecology*, and *Placenta*. He has contributed to the AIUM's blog, *The Scan*. His post, "Ultrasound Can Catch What NIPT Misses," is very popular even today, nearly 2 and a half years after it was posted. Dr Yagel has written 5 books and 8 chapters and is frequently invited to deliver lectures all around the world.

In Dr Yagel's spare time, when he is not leading an entire division at the hospital, instructing students and medical staff, speaking at international events, writing articles, and participating on editorial boards, he conducts research. He has been very instrumental in securing more than \$3 million in grant funding for research. His clinical research focuses primarily on 3-dimensional (3D) and 4-dimensional ultrasound of the fetal cardiovascular system, including the publication of a textbook, *Fetal Cardiology*, in 2003 and its second revised and expanded edition in 2008. The third edition is expected in 2018. In addition to that, his team has been investigating 3D ultrasound of the female pelvic floor, including the changes observed during parturition and in the context of pelvic floor dysfunction later in life, and the added value of 3D ultrasound in the perioperative workup of these patients. This work led to extensive investigation into the impact of the fetal head on labor and delivery outcomes.

The basic research that he performs at the Center for Placenta Research focuses on placental cell function and gene expression in the development of the placenta. In particular, he investigates the molecular mechanism of trophoblast invasion in embryo implantation and placental development. His work explores the implications of gene expression on the development of pathologies of pregnancy, such as preeclampsia, and pathologic implantation of the placenta, such as placenta accreta. In collaborative efforts, he continues to explore the role of natural killer cells at the maternal-fetal interface and their role as builders in implantation and placental and fetal development. More recently he has been engaged in studies of the molecular mechanisms involved in the expression of placenta-derived circulating antiangiogenic factors in the serum of pregnant women and their role in the development of preeclampsia.

