

Honorary Fellow Award

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



Adriana Suely de Oliveira Melo, MD, PhD

Genius. That is a single word that can be easily used to describe Dr Melo. She not only has an MD degree from the Federal University of Paraíba in Brazil, but she also has 3 masters of science degrees from the Federal University of Rio de Janeiro, Hospital Agamenon Magalhães, and State University of Paraíba. In addition to that, she has 2 PhDs, one from Institute Professor Fernando Figueira and the other from State University of Campinas. Her fields of study range from fetal medicine and ultrasound to public health.

Dr Melo currently works as a professor and researcher at Unifacisa and the Federal University of Campina Grande. She also works as a researcher at the Institute Professor Joaquim Amorim Neto in Brazil, a nongovernmental organization dedicated to research and assistance that focuses on diagnosis and characterization of congenital Zika and interventions aimed at reducing children's sequelae. As a gynecologist and obstetrician for nearly 20 years, Dr Melo has fully dedicated her life to maternal and neonatal health. She has developed projects regarding physical exercise during pregnancy and has studied maternal metabolic syndrome and neonate abnormalities including pathogens and infections.

When you hear the word "Zika," it is completely natural for one to think of Dr Melo. She is the first physician in Brazil to make the connection between the Zika virus in pregnant women and microcephaly in their infants. Her team was the first to publish Zika infection and microcephaly development results in research and clinical journals. Their most recent work suggested the use of the term "congenital Zika syndrome," since other development abnormalities were also observed with severe neuron damage and death. They expanded these results to better define the Zika diagnosis and microcephaly definition using intrauterine ultrasound complemented by magnetic resonance imaging, which suggested neurologic impairment, microencephaly, ventriculomegaly, calcifications (mainly subcortical), and cerebellar impairment in all cases examined. Hydrocephaly and fetal akinesia syndrome (arthrogryposis) can be found. Dr Melo and her team have performed autopsies on deceased infants to complete histopathologic and genetic analyses, which confirmed the presence of the Zika virus in several tissues, including the brain, lung, kidney, liver, and heart. The reason that her institute is known as the reference center to diagnose, treat, and assist pregnant women with the Zika infection is because of her and her team's research.

Dr Melo is not one to keep knowledge to herself. Since her discovery, she has been traveling the world giving presentations about her findings to the World Health Organization, Pan American Health Organization, and Brazilian health and government agencies. Various obstetrician, gynecologic, and radiologic organizations have invited her to speak at their conferences. She has collaborated with

several national and international institutions and has mentored several medical and biomedical professionals, nurses, and physiotherapy students.

Some people shy away from challenges; Dr Melo is not one of those people. She enjoys making research discoveries. Breastfeeding has been considered an important prevention strategy to decrease childhood obesity and obesity later in life. However, the question of fat distribution among breastfed and formula-fed infants has not been adequately studied, and some studies have shown conflicting results. Dr Melo and her team have taken on the task of comparing subcutaneous and preperitoneal thickness, both measured by ultrasound among breastfed, mixed-fed, and formula-fed infants during the first semester of life. She was also instrumental in starting a Brazilian Multicenter Study on Preterm Birth to evaluate the prevalence of preterm births in referral obstetric hospitals and to identify the main factors associated with spontaneous preterm births in the region.

Dr Melo plays an important role in the evaluation of routine prenatal examinations. Due to the evolution of diagnostic methods and the changes in illness prevalence, such as the increase in diabetes and sexually transmitted diseases, several propaedeutic procedures are available. These introduce further difficulty for clinicians to select the most adequate procedures and to know when to apply them during gestation, ensuring the best results for both mother and infant. Dr Melo's research aims to evaluate the main prenatal routine tests on the basis of the best scientific evidence presently available.

Research is a powerful tool for advancement, which Dr Melo fully understands. She has acquired 9 grants to help further explore maternal and neonatal health and has also participated in multiple research cohorts. Some of her research includes the incidence and characterization of fetal malformations and the effect of physical exercise during pregnancy and neonatal development. Her groundbreaking work has made her the ideal candidate for this award.

