

## W5: Leveraging noninvasive imaging and computational analyses to improve our understanding of pelvic anatomy and function

Workshop Chair: Marianna Alperin, United States  
07 September 2022 09:00 - 10:30

Start	End	Topic	Speakers
09:00	09:15	Radiological Assessment of the Pelvic Floor Muscles	Marianna Alperin
09:15	09:20	Questions	All
09:20	09:35	Ultrasound and MR Imaging to Evaluate Female Anatomy	Milena Weinstein
09:35	09:40	Questions	All
09:40	09:55	Evaluation of Urethral Anatomy and Function via Dynamic Ultrasound	Paul Hodges
09:55	10:00	Questions	All
10:00	10:15	Computational Methods to Analyze Pelvic Imaging and the Pelvic Floor Muscles	Megan Routzong
10:15	10:20	Questions	All
10:20	10:30	Discussion	Marianna Alperin Milena Weinstein Paul Hodges Megan Routzong

### **Aims of Workshop**

Imaging is used to assess anatomy and function of pelvic soft tissues and the impact of surgical interventions. Too frequently, imaging is not utilized to its full potential to evaluate anatomic variation or robustly quantify functionally-relevant tissue properties. Imaging, particularly dynamic imaging, provides important information beyond simple morphological assessments to enhance clinical decision making. Additionally, while radiological measures are commonplace, computational analyses of rich imaging data have the power to detect subtle but relevant phenotypic variations. This workshop will highlight techniques and analyses that facilitate identification of novel diagnostic and therapeutic targets relevant to pelvic floor disorders.

### **Educational Objectives**

The overarching goal of this workshop is to highlight and describe imaging techniques and computational image analysis methods that can improve how we interpret anatomy and function from clinical pelvic imaging. Speakers will also discuss how these techniques and methods have been used to assess pelvic organ/tissue function/dysfunction or compare across disease states, which is important for future translation of these methods/techniques into clinical diagnosis/patient evaluation.

The workshop is outlined to transition from a discussion of pelvic imaging of anatomy, to imaging of pelvic anatomy and function, and will end with a discussion of image analysis techniques. In this way, we are starting with what we expect our audience to find most familiar and ending in what they have likely been less exposed to. Additionally, this follows the natural logic of imaging coming before the post-image analyses.

The current schedule also allows for questions in between sessions to improve the audience's understanding and retention of the discussed material and a final discussion of all topics to tie imaging techniques, anatomical assessment, evaluation of function, and computational analyses all together and allow the speakers to bridge between their ideas through joint discussion and addressing questions that concern multiple topics. These questions and final interactive discussion allow for intermittent participation from the audience.

### **Learning Objectives**

List/identify pelvic imaging techniques that allow for the assessment of organ/tissue anatomy

### **Target Audience**

Urology, Urogynaecology and Female & Functional Urology, Pure and Applied Science

### **Advanced/Basic**

Basic

### **Suggested Learning before Workshop Attendance**

Weinstein MM, Lockhart ME. (2017) Chapter 35: Ultrasound and Magnetic Resonance Imaging in Urogynecology. In: Norton ME, Scutt L, Feldstein, VA editors. Callen's Ultrasonography in Obstetrics and Gynecology, Sixth edition. Elsevier; 1025-1044.