

8:00am-12:00pm | Oct 21, 2015 (Wednesday)

1C

Title:	Ultrasonic Therapy: Mechanisms, Methods and Applications
Lecturer:	Kullervo Hynynen , Sunnybrook Health Sciences Centre, Canada
Abstract:	This short course gives an introduction to therapeutic use of ultrasound that is currently transitioning from research studies to clinical practice. The ultrasound-induced bio-effects useful for therapy will be reviewed along with the generation of ultrasound. The second part of the course will cover the current therapy ultrasound systems and their use in clinical practice. Examples of the results of the clinical studies will be reviewed. Finally, potential new therapeutic uses of ultrasound currently in preclinical evaluation will be discussed together with the future directions and potential impact of therapeutic ultrasound.
Outline	<ul style="list-style-type: none">• Ultrasound Interactions with tissue• Generation of ultrasound• Guidance & Monitoring• Clinical systems & Results• New experimental and preclinical results• Future directions

Biography



Kullervo Hynynen received his Ph.D. from the University of Aberdeen, United Kingdom. After completing his postdoctoral training in biomedical ultrasound also at the University of Aberdeen, he accepted a faculty position at the University of Arizona in 1984. He joined the faculty at the Harvard Medical School, and Brigham and Women's Hospital in Boston, MA 1993. There he reached the rank of full Professor, and founded and directed the Focused Ultrasound Laboratory. In 2006 he moved to University of Toronto where he led a \$160 million effort to establish the Centre for Research in Image-Guided Therapeutics, a consortium between the Canadian government and Sunnybrook Hospital. He is currently the Director of Physical Sciences Platform at the Sunnybrook Research Institute and a Professor in the Department of Medical Biophysics and Cross Appointed Professor in Institute of Biomaterials & Biomedical Engineering (IBBME) at University of Toronto, Toronto, Ontario, Canada. He holds a Canada Research Chair in Imaging Systems and Image-Guided Therapy awarded by the Government of Canada and leads the Centre for Research in Image-Guided Therapeutics. Dr. Hynynen has published over 400 peer reviewed papers and book chapters on basic and clinical research and has been awarded 18 patents many of which have been licensed by industry. He has been the recipient of numerous NIH and other agency grant awards, private sector research contracts, served on study sections, editorial boards, and has been extensively involved in commercializing ultrasound technology. He is a Fellow of the American Institute of Ultrasound in Medicine, the Acoustical Society of America, and was Honorary President of the 2nd International Symposium on MRI-guided Focused Ultrasound by the

	<p>Focused Ultrasound Foundation. He was named the J. Eugene Robinson Awardee by the Society of Thermal Medicine, and the William and Francis Fry Honorary Fellow by the International Society for Therapeutic Ultrasound. More recently he was the recipient of the Silver Medal by the Acoustical Society of America in 2013 and the IEEE UFFC Rayleigh Award in 2014.</p>
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