

# ***Energy-based Treatment of Tissue and Assessment VII***

**Thomas P. Ryan**  
*Editor*

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## Introduction

Welcome to the Proceedings of the 2013 SPIE Conference: *Energy-Based Treatment of Tissue and Assessment VII*. This is the 15<sup>th</sup> year we have had this conference with SPIE. Our very first session was titled: *Surgical Applications of Energy*.

This year we had a variety of papers covering energy-based devices and techniques in Medicine. Over 35 presentations were made and the publications associated with those talks make up another great collection of SPIE Proceedings. We had a number of papers covering Nanoparticles in the treatment of cancer, with fabrication, imaging, modeling, cell effects and biodistribution, as well as the effects of external electrical and magnetic fields to activate and in some cases provide heat dosing. There were a number of ablation devices covering RF, microwave, and ultrasound for thermal therapy. For the first time there was a session on Plasma Medicine and the effects including bactericide, tissue healing, and tissue ablation (removal) and reshaping with non-thermal surgical technologies. There were also vessel sealing papers that cover models and the use of a valuable surgical technique enabled by recent technology. As always, we see the evolution of treatment technologies being guided by GPS devices in the patient, aided by image guidance. Radiometric techniques and MRI also demonstrated noninvasive thermal assessment technologies meant to be used in real time, concurrent with treatment. Lastly, it was valuable to have companies present their latest technologies and show how surgeons and interventional radiologists are using these devices for the treatment of patients.

**Thomas P. Ryan**

