MII Seminar Series

VirginiaTech
Invent the Future

Prof. Timothy N. Showalter, MD

"Improving Precision and Comfort for Image-guide Brachytherapy: Better Delivery with Polymer Science"

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Abstract:
Recent advanced in radiation technologies have ushered in an era of image-guided brachytherapy, enabling the outpatient delivery of highly conformal high-dose rate brachytherapy. Despite advances in the use of MR and CT imaging to define target volumes and customized, 3-dimensional treatment planning, there has been little improvement in brachytherapy applicators and accessories to deliver optimal therapy. This presentation will present a nascent collaborative project to develop a polymer foam strategy that can be used to improve the clinical care of patients receiving brachytherapy for gynecological cancers. The biocompatible polymer foam will form in situ after being injected into the vaginal space, and later removed by instillation of saline to soften the foam and physical extraction. The seminar will focus on the specific research project as well as additional potential opportunities for innovation through materials science.

Bio:
Dr. Showalter is a radiation oncologist and clinical researcher who focuses on pelvic malignancies and "brachytherapy", which is the implantation of radioactive materials to treat cancer. His research primarily focuses on pelvic brachytherapy and comparative effectiveness research. He and Dr. Tim Long have initiated a collaborative project that aims to develop a self-expanding polymer foam to serve as vaginal packing for cervical cancer brachytherapy and that can be used in combination with a novel 5-channel applicator for vaginal brachytherapy.

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LOCATION: 310 KELLY HALL/ICTAS I