Πανεπιστήμιο Κύπρου

The Department of Physics at the University of Cyprus
is organizing a seminar on

**Wednesday, 5th of December 2018, time 4:00 p.m.**

Room B228, Building 13, New Campus

Speaker:

**Professor Triantafyllos Stylianopoulos**
**Department of Mechanical and Manufacturing Engineering**
**University of Cyprus**

# "The role of physical forces in tumor growth and therapy: In silico, in vitro and in vivo studies"

Tumors generate physical forces during growth and progression. These physical forces are able to compress blood and lymphatic vessels, reducing perfusion rates and creating hypoxia. When exerted directly on cancer and stromal cells, they can increase their invasive and metastatic potential. Hypo-perfusion and hypoxia contribute to immune-evasion, promote malignant progression and metastasis, and reduce the efficacy of a number of therapies, including radiation. In parallel, tumor vessel leakiness together with vessel compression cause a uniformly elevated interstitial fluid pressure that hinders delivery of blood-borne therapeutic agents, lowering the efficacy of chemo- and nano-therapies. Taming these physical forces can improve therapeutic outcomes in many cancers. In my talk, I will present a series of *in silico*, *in vitro* and *in vivo* studies that demonstrate the importance of physical forces in tumor progression and how modulation of these forces can result in improved treatments.

For more information, please contact:
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