

**Alberto d'Onofrio**

DEPARTMENT OF EXPERIMENTAL ONCOLOGY, EUROPEAN INSTITUTE OF ONCOLOGY, MILAN, ITALY

e-mail: [alberto.donofrio@ifom-ieo-campus.it](mailto:alberto.donofrio@ifom-ieo-campus.it)

### **The noisy life of tumors**

In this talk we shall survey some recent theoretical results of our group on how much and how noise can deeply affect both natural history of tumours and their therapies. In the first part we shall show how intrinsic noise might be beneficial since it might trigger tumour suppression through evasion from immune surveillance. On the other hand, we shall show how extrinsic noise may be negative, since it might trigger, both in absence and in presence of therapies, bounded-noise-induced phase transitions leading to tumour expansion.

#### REFERENCES

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