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**COLLOQUIUM INAUGURALE  
DEL DOTTORATO IN FISICA, A.A. 2024/2025  
LEZIONE VOLTIANA**

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Aula Volta, Palazzo Centrale  
**Giovedì 17 Ottobre 2024 ore 16:00**

***Radiation Oncology: Where  
Physics Meets Cancer Therapy***

**Harald Paganetti**

*(Massachusetts General Hospital and  
Harvard Medical School)*

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In radiation oncology, physics has always played a critical role in shaping precise and effective cancer treatments. By harnessing the principles of radiation physics, we can accurately target cancer cells while minimizing damage to healthy tissue, providing patients with cutting-edge therapeutic options. In recent years, this traditional role of physicists in radiation oncology research has changed as the field has become more interdisciplinary, with physicists, biologists and clinicians working together. As a result, physics research has evolved to incorporate biological mechanisms.

This talk will provide examples of how physicists are using biophysical modelling and mathematical tools to bridge the gap between the "bottom" (fundamental radiation physics) and the "top" (clinically observed effects in patients) in both bottom-up and top-down approaches.

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*The seminar is in presence up to the maximum occupancy of the lecture hall.*