

GSI – BIOPHYSICS SEMINAR

Wednesday, July 3, 2024 at 11:30 a.m.

KBW - Hörsaal
Planckstraße 1, 64291 Darmstadt

Prof. Dr. John G. Eley
Director of Medical Physics Education
Vanderbilt University School of Medicine
Nashville (TN), USA

“Carbon ion therapy for pediatric CNS tumors: Proposal to benchmark RBE in vivo for neurologic endpoints and tumor control for a model of pediatric glioblastoma”

Carbon-ion radiation therapy (CIRT) has the potential to improve survival of adult patients with radioresistant brain tumors due to its physical dose distributions and its high linear-energy transfer, making it possible to treat brain cancer using less radiation dose than x rays or protons. However, for younger pediatric patients undergoing critical stages of brain development, the question shifts: what are the risks of functional neurotoxic and other late side effects? This critical and unanswered question will be addressed by systematically quantifying the 1) RBE for CIRT-mediated normal-tissue toxicity in a rodent model of pediatric brain and 2) efficacy for CIRT in a preclinical rodent model of pediatric glioma.

Organized by Prof. Dr. M. Durante
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