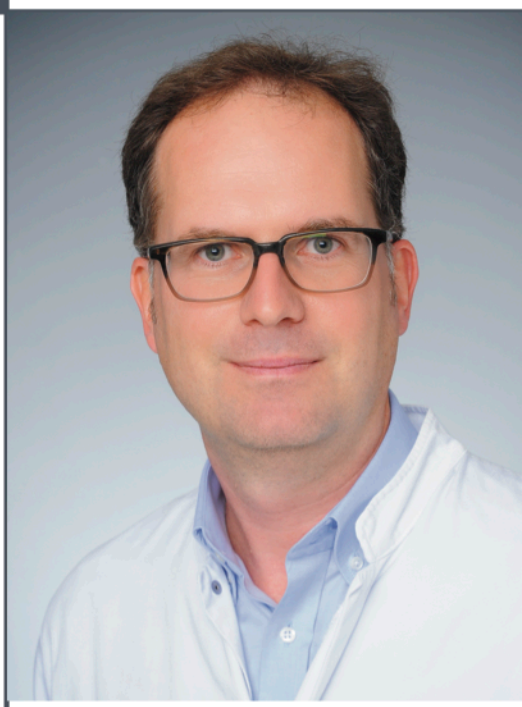
WHERE
Room 90.78.100.029
MRB2, UZ Gent

WHEN
November 30, 2018
13:00

MEET THE PHD JURY
INVITED SPEAKER
Prof. Dr. Matthias Fischer



Insights into the mechanisms of tumor progression and regression using neuroblastoma as a model

Neuroblastoma is a pediatric tumor of the sympathetic nervous system. Its clinical course ranges from spontaneous tumor regression to fatal progression. To investigate the molecular features of the divergent tumor subtypes, we performed genome sequencing on 416 pretreatment neuroblastomas and integrated sequencing results with information on telomere maintenance mechanisms in 208 of these tumors. We found that patients whose tumors lacked telomere maintenance mechanisms had an excellent prognosis, whereas the prognosis of patients whose tumors harbored telomere maintenance mechanisms was substantially worse. Survival rates were lowest for neuroblastoma patients whose tumors harbored telomere maintenance mechanisms in combination with RAS and/or p53 pathway mutations. By contrast, spontaneous tumor regression occurred both in the presence and absence of RAS/p53 pathway mutations in patients with telomere maintenance-negative tumors. Based on these data, we propose a mechanistic classification of neuroblastoma that may benefit the clinical management of patients. In addition, our results emphasize the central role of telomere maintenance mechanisms in the pathogenesis of human malignancies.

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HOSTED BY
prof. dr. Katleen De Preter

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