



# X-RAY ASTRONOMY 2019

*Current Challenges and New Frontiers in the Next Decade*

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## The dependence of star formation on AGN activity and absorption

*Thursday, 12 September 2019 12:40 (15 minutes)*

Studies of recent decades have led to the conclusion that there is an inextricable link between galaxies and the Supermassive Black Holes (SMBHs) located in their centre. However, it is still unclear how the activity of the SMBH affects the properties of the host galaxy. Furthermore, there is a scientific debate whether the absorption we observe in some AGN is a geometric effect or an evolutionary phase in the galaxy's lifetime. In my talk, I will present our results on the correlation between the SMBH activity and the SFR of the host galaxy. We use the largest (~3,500) X-ray AGN sample, from the XMM-XXL and the XMM-ATLAS fields in a wide range of redshift and luminosities. We disentangle the effects of stellar mass and redshift on the SFR and show that the AGN enhances the star formation of its host galaxy when the galaxy lies below the main sequence and quenches the star formation of the galaxy it lives in when the host lies above the main sequence. Finally, I will discuss preliminary results of our work regarding the connection between the star formation and the AGN absorption. Investigating the existence of such a correlation will shed light on the nature of the AGN absorption.

### Topic

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