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Decoding the atmospheres of temperate rocky planets in the 2040s

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With complementary strategies, two main space missions in the 2040s (WHO and LIFE) are being designed in order to investigate and interpret the atmospheres of temperate, rocky exoplanets - including the search for biological signatures. In this short review I will recap the main science goals, the strategy of both observatories, and the reliance on scientific milestones of the previous decade, such as the exact mechanisms of the rocky-gaseous transition, atmosphere retention over geological times, and the diversity of rocky atmospheres. These earlier goals will be pivotal to put any putative measurement of biomarkers in context.

Presenter: BROGI, Matteo (University of Warwick)

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