Schinzel's Hypothesis with probability 1 and rational points on varieties in families

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Joint work with Alexei Skorobogatov. We prove that Schinzel's Hypothesis (H) holds for 100% of polynomials of any fixed degree. The proof of this result uses a truncated version of the von Mangoldt function and takes advantage of cancellation properties of the Moebius function. I will explain how to deduce from this that among varieties in specific families over $\mathbb{Q}$, a positive proportion have rational points. The main examples are varieties given by generalised Châtelet equations and diagonal conic bundles of any fixed degree over the projective line.