

## **Theoretical Studies of the Effect of Massive Stars on the Interstellar Medium**

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Massive stars are relatively rare but have a completely disproportionate influence on the surrounding galaxy, through their powerful winds and supernova explosions, and their intense emission of ultraviolet radiation. Nowhere is this more important than the stellar nurseries where new stars are being born. Massive stars are thought to be effective at destroying these environments, and thus at limiting the rate of star formation in galaxies.

In this project you will use state-of-the-art computational fluid dynamics codes to simulate the interaction of massive stars with their surrounding environment. The degree of coupling of the winds, supernova explosions, and radiation with a clumpy, porous molecular environment is currently poorly understood, and this study will yield significant new insights into these processes.