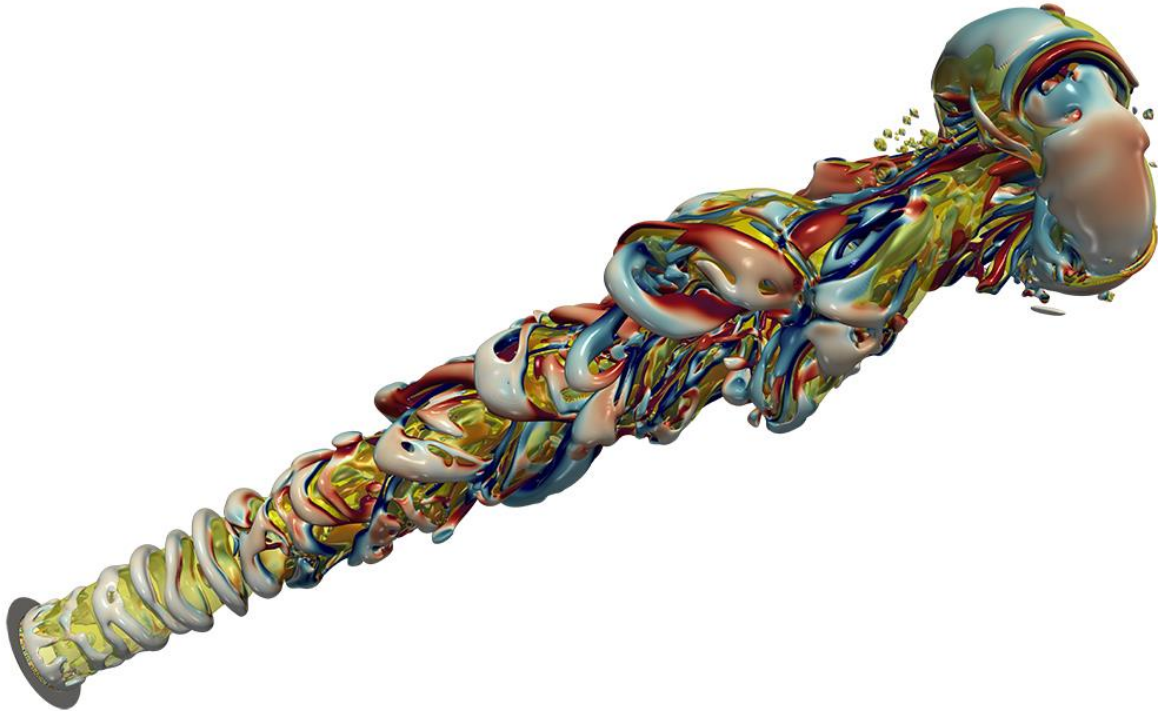


UK Fluids Network photo competition #8

Honourable mention

'Turbulent jets'

Cristian Ricardo Constante Amores (Imperial College London)



Click on image to see high quality version

The breakup of fluid jets is a canonical problem in interfacial singularity two-phase flows due to topology changes. The atomisation regime is difficult to characterise experimentally due to its chaotic and stochastic behaviour due to turbulence. Hence, we have performed three-dimensional Direct Numerical Simulations of turbulent liquid jets ($Re \sim 6520$) ensuring that we resolve all the turbulent scales. We observe Kelvin-Helmholtz vortices which deform to hairpin vortical structures close to the interface, visible in the figure.

Acknowledgements

Blue code.