Please note change in room for this date only

Speaker: Marvi Catalisano, Genoa

Title: On the Hilbert function of general fat points in $\mathbb{P}^1 \times \mathbb{P}^1$.

Abstract: In a recent paper with Enrico Carlini and Alessandro Oneto, we studied the Hilbert function in bi-degree $(a,b)$ of ideals of general fat points with the same multiplicity $m$ in $\mathbb{P}^1 \times \mathbb{P}^1$. Our main tool was the multiprojective-affine-projective method introduced in previous works with Tony Geramita and Alessandro Gimigliano, where the case of double points was solved. By this tool, we compute the Hilbert function when $m$ is at least $\min\{a, b\}$. Our second tool was the differential Horace method, introduced by J. Alexander and A. Hirschowitz. In this way, we compute the entire bi-graded Hilbert function in the case of triple points.