Elliptic Linear Weingarten surfaces with isolated singularities

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In this talk we wills study isolated singularities of Elliptic Linear Weingarten surfaces (i.e. surfaces whose Gaussian curvature and mean curvature satisfy a linear relation as $2aH + bK = 1$ for certain constants $a, b \in \mathbb{R}$ such that $a^2 + b > 0$).

We will explain how the existence of a harmonic Gauss map, joint with some techniques associated to the study of singular surfaces of constant Gaussian curvature $K > 0$, can be applied to classify this more general family of singular surfaces (which includes surfaces with $K < 0$ and with unbounded curvature). In particular, we will show how to classify singular surfaces, locally, in terms of their limit unit normal at the singularity.

This is a joint work with João Paulo dos Santos (UnB).