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**PhD project title**

*In vitro* model of dry eye disease for the evaluation of the safety and efficacy profile of novel ophthalmic formulations

**Research summary**

Over the last decade, the interest in the treatment of ophthalmic diseases is increasing. Human eye is a very complex organ made up of several structures with specific physiological functions. Due to this complexity, along with the necessity to reduce animal use for research purposes, the development of innovative experimental methodologies that can mimic ophthalmic disorders is still a compelling issue.

This project aims to set up an innovative *in vitro* model of Dry Eye Disease (DED), using 3D reconstructed human corneal tissues. The model will be used to evaluate innovative formulations useful in the prevention and treatment of DED. Finally, pharmacological effects, pharmacokinetics and toxicity of the most promising formulations will be evaluated to characterize their safety and efficacy profile.