



## RESEARCH TOPIC CL12

### Immersive reality for robotic surgical training

#### Clinical Unit name

Division of Colon and Rectal Surgery  
IRCCS – Humanitas Research Hospital

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#### Abstract

There is an urgent need to train surgeons for being able to master increasingly complex new technologies limiting costs and environmental impact<sup>1-3</sup>. Immersive intracorporeal vision is a key feature of robotic surgery limited today to only one trainee per operation.

The aim of this project is to develop a tool to open this view to a virtually unlimited number of surgeons allowing trainees not only to see the intracorporeal movements of the instruments but also a real-time control of surgeon's hands movements commanding them.

This tool would completely change the access to surgical education considerably limiting costs, time and boosting accessibility and experience.

A demonstrative video can be sent upon request.

#### Scientific references

1. Fecso AB, Bhatti JA, Stotland PK, Queresy FA, Grantcharov TP. Technical Performance as a Predictor of Clinical Outcomes in Laparoscopic Gastric Cancer Surgery. *Ann Surg.* 2019; 270(1):115-120.
2. Kaufman DM, Bell W: Teaching and assessing clinical skills using virtual reality. *Stud Health Technol Inform* 39:467-472, 1997
3. Kairys JC, McGuire K, Crawford AG, Yeo CJ. Cumulative operative experience is decreasing during general surgery residency: a worrisome trend for surgical trainees? *J Am Coll Surg.* 2008;206(5):804-11; discussion 811-3.

#### Type of contract

PhD scholarship of € 22.400 gross per year awarded by Humanitas University. This sum is exempt from IRPEF income tax according to the provisions of art. 4 of Law no. 476 of 13th August 1984, and is subject to social security contributions according to the provisions of art. 2, section 26 and subsequent sections, of Law no. 335 of 8th August 1995 and subsequent modifications.



Borsa di dottorato pari a € 22.400 annui lordi erogata da Humanitas University. Importo non soggetto a tassazione IRPEF a norma dell'art. 4 della L. 13 agosto 1984 n. 476 e soggetto, in materia previdenziale, alle norme di cui all'art. 2, commi 26 e segg., della L. 8 agosto 1995, n. 335 e successive modificazioni.