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Image created at the Cell Imaging
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Colourful but unwanted changes in the muscle of cancer patients

Semi-finalist

During cancer, patients lose a significant amount of muscle mass. This is associated with poor outcomes and increased mortality rates. Muscle is composed of different types of muscle fibers (also called muscle cells): slow muscle fibers are meant for endurance activities and fast muscle fibers for quick movements. Importantly, muscle loss has been associated with changes in these fiber types, accompanied by the shifting of slow fibers to fast fibers or vice versa. In my project, I am characterizing the different fiber types in the muscle of cancer patients to understand how this element affects whole muscle mass.

This image illustrates a colourful experiment that allows us to visualize different types of muscle fibers based on a fluorescent stain and confocal microscopy. The light and dark green colours represent fast muscle fibers and the yellow colour slow muscle fibers. This technique enables us to evaluate the proportions of fast and slow muscle fibers, grouping pattern of similar fiber types and overall size and shape of muscle fibers which may translate as an underlying muscle pathology that influences muscle loss in the cancer population.