Cognitive dysfunction of vascular origin may be defined as any type of cognitive or behavioural impairment that results from nervous system damage and neuronal loss caused by cerebrovascular disease. It may be slowly progressive, in relation with vascular risk factor exposure, or of sudden onset after stroke or even transient ischaemic attack. At least one third of stroke patients show cognitive impairment 3 months after the acute phase, with the most affected domains being attention, executive functioning and processing speed. These deficits contribute to overall functional impairment and may even lead to dementia, but they also interfere significantly with rehabilitation programs.

However, there are very limited pharmacological treatment approaches for the management of cognitive impairment after stroke. Therefore, cognitive interventions are an increasingly common approach in stroke rehabilitation programs, either isolated or combined. If we consider the non-motor aspects of the human brain, cognitive training must be understood in a similar manner as physical therapy for motor deficits. Despite the continuum between cognitive, behavioural and motor functions, the former are more complex and supported on memory and other distributed neural systems, which presents specific challenges for the design of effective interventions. These may be defined as a group of non-pharmacological interventions, specifically conceived with the purpose of improving cognitive and behavioural performance in stroke patients.

During this lecture, we will review the indications, methods and recent scientific evidence on the effects of specific neuropsychological interventions in cognitive dysfunction of vascular origin and after stroke.