**PDFA Taiwan teaching program**

**Introductory seminars – Vladislav Sekulic**

**General seminar**

Talk title: *What is memory? A tour of the evolution, structure, and function of memory systems across species*

One of the key features of life is the ability to locate food, avoid predators and dangers, and seek out mates for procreation. The development of nervous systems greatly enhanced the ability of organisms to perform these behaviours. However, without the capacity to remember previously found food locations and previously encountered hazards and mates, the ability of organisms to carry out these behaviours would be inherently unreliable. Therefore, the evolution of memory, or the ability to store and recall previous experiences, greatly increased the ability of organisms to survive and procreate. Additionally, memory systems evolved very early on in the history of life, largely in tandem with the above behaviours themselves. Of course, memory is a central feature of human life, and disorders involving memory impairment are some of the most debilitating diseases that afflict society. As neuroscientists studying memory systems in order to develop treatments for such disorders of memory in humans, therefore, it can be instructive to step back and survey the evolution of memory so as to better understand its specific implementation in mammals and humans in particular. In this way, not only can the general features of memory systems common to all species be understood, but also the particular features unique to memory in humans can be appreciated.