

## ENVIRONMENTAL SCIENCES SEMINAR SERIES, **WINTER 2025**

Date(s): Jan 30

Speaker: Dr Peter Tsigaris

Title: Ecosystem services: Assessing their economic value and role as natural assets

Abstract: Ecosystem services are crucial to the global life-support system, contributing both directly and indirectly to human welfare. In the landmark 1997 study by Costanza et al., the global annual value of these services was estimated at approximately \$33 trillion in 1995 dollars. A 2014 update by Costanza and colleagues revised this estimate upwards to between \$125 and \$145 trillion per year, reflecting updates in biome areas and valuation metrics. These valuations significantly surpass global GDP, highlighting the immense, yet often overlooked, contribution of natural capital to the global economy. Moreover, the 2014 study documented substantial losses in ecosystem services, estimated at \$4.3 to \$20.2 trillion per year due to land use changes. This presentation will revisit the methodologies of these valuations and introduce novel findings from my research and collaborations on valuing the natural assets themselves, including the global value of freshwater lakes and the climate regulation services provided by various biomes.