



UNIVERSITÀ DEGLI STUDI
DI CAGLIARI

Economics Seminars

Friday 26 June 2026 at 12:00

Aula Magna Edificio Baffi

Facoltà di Scienze Economiche Giuridiche e Politiche - Viale Sant'Ignazio 74

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The Economics of the Global Water Cycle: An Integrated Assessment Model (with F. Farrokhi and H. Massoni)

Abstract. Billions face water insecurity as extraction accelerates, yet local policies fail to account for global feedbacks. Through the atmospheric water cycle, local depletion reduces precipitation worldwide; international trade further propagates these shocks -- together creating a globalized tragedy of the commons. We develop a dynamic spatial general equilibrium model with an integrated hydrological module to jointly study these two externalities. The model yields a tractable optimal policy: a basin-specific Pigouvian water tax equal to the Social Cost of Water. Quantifying the model against global hydrological and trade data, we will measure welfare losses from uncoordinated extraction and simulate optimal water policies for the 21st century.