



NSW Branch Seminar

Prof. Dr. Arnaud Dragicevic

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Forest Governance for Welfare and Resilience in a Changing Climate

Climate change intensifies the challenge of sustaining forest landscapes that simultaneously deliver timber, carbon sequestration, recreation, and biodiversity conservation. We develop a stochastic network model of forest governance under climate-induced disturbances, combining nonstationary climate drivers, adaptive management, and evolutionary variational inequalities. The framework contrasts monofunctional zoning with multifunctionality, integrating spatial connectivity, adaptive budgets, and governance strategies.

Using Monte Carlo climate scenarios for both high-emission (Business-as-Usual) and low-emission (Net Zero) policy pathways, we quantify welfare, resilience metrics -- including viability probabilities, welfare preservation ratios, conditional value-at-risk (CVaR), and downside risk -- and service synergies. Results show multifunctionality increases median discounted welfare by \$14\%\$ (Business-as-Usual) and \$15\%\$ (Net Zero) relative to monofunctional zoning and improves median resilience indicators by up to \$30\%\$, particularly under high climate variability, though it reduces peak timber output. We identify adaptive budget thresholds and service allocation mixes that jointly maximize welfare and robustness, revealing strong non-linear interactions between spatial connectivity and diversification.

Policy analysis confirms multifunctionality consistently enhances welfare and resilience across climate scenarios, providing a quantitative basis for designing forest governance strategies that balance economic, social, and ecological objectives under climate change.

Prof. Dr. Arnaud Dragicevic is an international faculty member at Chulalongkorn University in Bangkok, Thailand, and an associate researcher at CIRANO in Montreal, Quebec, Canada. Specializing in bioeconomics and socio-ecological systems, he holds a PhD from École Polytechnique in Paris, France, and a habilitation from the Aix-Marseille School of Economics in Marseille, France.

Wednesday 18 February 2026

Sydney University Jane Foss Russel Building Meeting Room 708 (20), Sydney NSW 2006

Seminar 5:30pm - 6:30 pm
Drinks and dinner.

This is a free event and non-members are encouraged to attend.

Please **RSVP by 17 February** by registering here: [In Person](#)
Or for online attendance, here: [Online via Zoom](#)
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