



SEMINAR

Mon, 6 Jan 2025 | 10 am | S3 05-02 Conference Room 1

Hosted by Prof Koh Lian Pin

Harnessing the potential for natural regeneration: a path to scalable and cost-effective forest restoration

Extensive forest restoration is a key strategy to meet Nature-based sustainable development goals and provide multiple social and environmental benefits. Yet achieving forest restoration at scale requires cost-effective methods. Tree planting in degraded landscapes is a popular but costly forest restoration method, which often results in less biodiverse forests when compared to natural regeneration techniques under similar conditions. In this talk, Brooke will present the first model of the potential for natural regeneration across tropical forested countries and biomes at 30-meter spatial resolution. Using the model, it is estimated that 215 million hectares - an area greater than the entire country of Mexico - has potential for natural forest regeneration, representing an above-ground carbon sequestration potential of 23.4 Gt CO₂ (range 21.1-25.7 Gt) over 30 years. Five countries (Brazil, Indonesia, China, Mexico, and Colombia) account for 52% of this estimated potential, showcasing the need for targeting restoration initiatives that leverage natural regeneration potential. Brooke will discuss how the results can be used to facilitate broader equitable decision-making processes that capitalise on the widespread opportunity for natural regeneration to help achieve national and global environmental agendas.



By Brooke Williams

Queensland University of Technology, Australia

About the Speaker

Dr. Brooke Williams is a Research Fellow at the Queensland University of Technology (QUT) who focuses on finding innovative solutions to conservation problems at the environment-human interface at both global and local scales. Balancing conservation with human needs is an increasingly important area of science, and she addresses these challenges in two ways. The first is through strategic planning where she designs tools to effectively allocate conservation action, largely through mathematical optimisation. The second is by developing metrics to inform on conservation and restoration decision making. Her most recent work has focused on quantifying the potential for natural regeneration across Earth, and integrating it into decision support tools.