

Forests for the future

SCIENCE AND
INDUSTRY
ENDOWMENT
FUND

SIEF is supporting Forests for the future: making the most of a high CO₂ world.

the challenge For the past ten thousand years, atmospheric CO₂ has been relatively stable, but over the past 150 years CO₂ has risen 40% from this long-term value, and is projected to be at least double this historical value by the end of this century. While the rise in atmospheric CO₂ presents a global challenge, it also offers opportunities to increase forest production and bio-sequestration. One consequence of this rapid rise in CO₂ is that photosynthesis has been increased, generating increased carbon gain and plant production on a global scale.

the response To develop a novel strategy that rapidly identifies tree species that exhibit a strong, positive growth response to elevated CO₂, and the genetic attributes underlying these responses. This will be the first comprehensive attempt to link genomic and phenomic approaches to large-scale assessment of plant responses to elevated CO₂.

the collaboration The Forests for the Future Project is a strong collaboration between The Australian National University, University of Western Sydney and CSIRO which will place Australia in the forefront of climate-change related biological science spanning from laboratory to greenhouse to plantation.

projected impact The outcomes of this project result in impact in a number of areas:

- Widespread application of the Project's products by end-users will greatly improve capacity to identify genotypes that are responsive to elevated CO₂ in all plants, including trees and crops. This will lead to better choices to achieve greater economic output from the forest industry.
- Development of less expensive and less labour-intensive procedures will add to the economic benefits of this technology, and increased commercial application
- Environmental impact includes an increase in plantation forests that grow well despite the effects of rising CO₂ levels including higher temperatures, physiological responses and changes in water and carbon use, thus aiding in sequestration of CO₂ and increase in greening of Australia.

Contact us

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What is SIEF?

Spanning a history of over 85 years, the Science and Industry Endowment Fund (SIEF) provides grants to science and scientists for the purposes of assisting Australian industry, furthering the interests of the Australian community and contributing to the achievement of Australian national objectives. In 2009 this unique and esteemed funding arrangement was rejuvenated by a gift from CSIRO, made possible due to the commercial success of CSIRO's fast WLAN, or Wi-Fi technology. Thus past accomplishments are reinvested into new science and innovation for the nation.