

Dr. MANUEL F. ROCHA-SEPÚLVEDA

Forestry Researcher (BSc., Ph.D.)

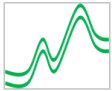



Data modelling – Quantitative genetics – Machine Learning



PROFILE

Passionate forestry researcher focused on bioclimatic and genetic data modelling using machine learning and advanced visualization techniques. I have more than 10 years experience on academic and applied research working with multicultural research teams locally and internationally. I am motivated in finding new knowledge from wood-quality data to improve present and future forest value.

WORK EXPERIENCE

- 2022 -  **Co-Founder – Data Scientist**
OneForest Analytics
Chile
- Near-infrared modelling and machine learning
 - R and Python (Shiny) developer
 - Wood quality model calibration systems
- 2022 - 2017  **Doctoral researcher**
University of Tasmania
Australia
- Modelling of wood quality traits
 - Machine learning and software development
 - Non-destructive assessment techniques
 - Analysis of quantitative genetic data (ASReml-R)
- 2017 - 2012  **Associate researcher**
Tree Improvement Cooperative
Universidad Austral de Chile
- Genetic trial design and measurement
 - Research proposal formulation and design
 - Base pop. and 2-gen genetic trial assessment
 - Analysis of genetic data (Breeding values)
- 2016 - 2012  **Teaching assistant**
Universidad Austral de Chile
- Computational statistics course (module)
 - Tree improvement course (module)
 - Professional training course

CONTACT

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 <https://mrocha.me/>

Chile

EDUCATION

2022
Ph.D. Forest Sciences
University of Tasmania
Australia

2012
BSc. Forest Sciences
Universidad Austral de Chile

SKILLS

Python and R
Shiny-R developer
ASReml-R
ArcGIS/QGIS
Docker + Kubernetes

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Scientific Publications
(peer-reviewed)

- 2022 ● Using ensemble learning to model climate associated variation in wood properties of planted *Eucalyptus nitens* in north-western Tasmania.
- Manuel F. Rocha-Sepúlveda**, Mario Vega, Peter A. Harrison, Kelsey Joyce, René E. Vaillancourt, Brad M. Potts. *New Forests*.
- <https://doi.org/10.1007/s11056-022-09948-4>
- 2022 ● Effects of thinning on the longitudinal and radial variation in wood properties of *Eucalyptus nitens*
- Vilius Gendvilas, Mark Neyland, **Manuel F Rocha-Sepúlveda**, Geoffrey M Downes, Mark Hunt, Andrew Jacobs, Dean Williams, Mario Vega, Julianne O'Reilly-Wapstra *Forestry: An International Journal of Forest Research*, Volume 95, Issue 4.
- <https://doi.org/10.1093/forestry/cpac007>
- 2021 ● Genetic variation of microfibril angle and its relationship with solid wood and pulpwood traits in two progeny trials of *Eucalyptus nitens* in Tasmania.
- Rocha-Sepúlveda, MF**, Williams, D, Vega, M, Harrison, PA, Vaillancourt, RE, Potts, BM. *Holzforschung* 75, 689-701.
- <https://doi.org/10.1515/hf-2020-0196>
- 2021 ● R-based image analysis to quantify checking and shrinkage from wood wedges.
- Rocha-Sepúlveda, MF**, Vega, M, Gendvilas, V, Williams, D, Harrison, PA, Vaillancourt, RE, Potts, BM. *European Journal of Wood and Wood Products* 79, 1269-1281.
- <https://doi.org/10.1007/s00107-021-01715-0>

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Rancagua, Chile

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