

# Dr. Alexander Norton

CV

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## Education:

- **PhD: School of Earth Sciences - University of Melbourne (2014-2018)**
  - Australian Postgraduate Award (APA) Scholarship
  - CSIRO Office of the Chief Executive (OCE) Postgraduate Scholarship
  - Australian Research Council Center of Excellence for Climate System Science student
- **BSc (Env.) and BEng (Env.) (Hons): RMIT University (2009 - 2013)**
  - Graduated with Distinction (BSc) and First Class Honours (BEng)

## Employment:

- Research assistant in terrestrial ecology and eddy covariance flux towers, University of Western Australia (2018-present)
- Research assistant in climate-carbon cycle modelling, University of Melbourne (2018-present)
- Guest lecturing and tutoring at School of Earth Sciences, University of Melbourne (2016-present)
- CSIRO Industrial Traineeship with Marine and Atmospheric Research (2013)
- Hydrological engineering consultant at Cardno (2013)
- Water resources engineer for Grampians Wimmera Mallee Water (Summer 2011/2012)

## Awards:

- Royal Society of Victoria Young Scientist Research Prize (2017)
- Rotary Club of Balwyn Global Environmental Sustainability Award (2016)
- Victorian Universities Earth Environmental Society Conference presentation award (2016)
- RMIT's John Storey Junior Memorial Scholarship (2012)

## Publications:

*Published or Accepted for Publication*

- E. N. Koffi, P. J. Rayner, **A. J. Norton**, C. Frankenberg, and M. Scholze, 2015: Investigating the usefulness of satellite derived fluorescence data in inferring gross primary productivity within the carbon cycle data assimilation system, *Biogeosciences*, 12, doi:10.5194/bg-12-4067-2015
- **A. J. Norton**, P. J. Rayner, E. N. Koffi, and M. Scholze, 2018: Assimilating solar-induced chlorophyll fluorescence into the terrestrial biosphere model BETHY-SCOPE: Model description and information content, *Geosci. Model Dev.*, 11, doi:10.5194/gmd-11-1517-2018
- W. Woodgate, L. Suarez; E. van Gorsel; L. Cernusak; R. Dempsey; R. Devilla; A. Held; M. J. Hill; **A. J. Norton**: tri-PRI: A three band reflectance index tracking dynamic photoprotective mechanisms in a mature Eucalypt forest, *Ag. Forest Met.*, AGRFORMET-D-19-00121R1, 2019

*Submitted or In-Review*

- **A. J. Norton**, P. J. Rayner, E. N. Koffi, M. Scholze, J. D. Silver, and Y-P. Wang: Estimating

global gross primary productivity using chlorophyll fluorescence and a data assimilation system with the BETHY-SCOPE model, Biogeosciences Discussions. *In Review*, doi: 10.5194/bg-2019-83

### Conference and Meeting Presentations:

- **A. J. Norton**, P. J. Rayner, Investigating anomalies in Australian terrestrial carbon uptake using satellite chlorophyll fluorescence, TERN OzFlux Conference, 2015, Hobart, Australia
- **A. J. Norton**, P. J. Rayner, E. N. Koffi, M. Scholze, Global gross primary productivity for 2015 from OCO-2 SIF and a Carbon Cycle Data Assimilation System, AGU Fall Meeting, 2016, San Francisco, USA.
- **A. J. Norton**, P. J. Rayner, How Productive is Earth's Terrestrial Biosphere? Novel satellite measurements and methods to understand global primary productivity, at the ACCOMC - CGASM 2014, CSIRO, Aspendale, Australia.
- **A. J. Norton**, M. Scholze (presenting author), P. J. Rayner, E. N. Koffi, Using SIF to Infer Global Gross Primary Productivity (GPP) in a Carbon Cycle Data Assimilation System, FLEX Conference, 2017, ESA-ESRIN, Frascati, Italy.
- W. Woodgate (presenting author), L. Suarez, E. van Gorsel, **A. J. Norton**, et al., Tracking forest canopy stress from an automated proximal hyperspectral monitoring system, FLEX Conference, 2017, ESA-ESRIN, Frascati, Italy.
- W. Woodgate (presenting author), L. Suarez, E. van Gorsel, **A. J. Norton**, et al., Remote sensing of vegetation light use efficiency: exploring new formulations robust to variations in canopy depth, EGU General Assembly 2018, Session BG1.24/GI2.19, Vienna, Austria.
- **A. J. Norton**, Y. Villalobos-Cortes, P. J. Rayner, M. Scholze, E. N. Koffi, J. D. Silver, Y-P. Wang, Data assimilation with SIF and CO<sub>2</sub> observations from OCO-2, NASA OCO-2 Science Team Meeting, October 2018, Boulder, USA.
- **A. J. Norton**, M. Scholze (presenting author), P. J. Rayner, E. N. Koffi, J. D. Silver, Y-P. Wang, Assimilating satellite SIF into a process-based terrestrial biosphere model: BETHY-SCOPE, FLEX Conference, 2019, ESA-ESRIN, Davos, Switzerland.

### Technical skills and experience:

- Field work experience (eddy covariance, plant physiology)
- High performance computing (e.g. Australia's NCI) (advanced)
- Python programming (advanced)
- Fortran 90 programming (intermediate)
- Matlab programming (intermediate)
- Git version control (intermediate)
- Latex typesetting (advanced)
- Data assimilation (advanced)