

CV: Mathew Lipson

Undertaking a PhD in urban climate model development at UNSW Sydney

Affiliation: UNSW Sydney, Climate Change Research Centre (CCRC) and ARC Centre of Excellence for Climate System Science
Address: CCRC, Level 4, Mathews Building, University of NSW, Sydney, NSW 2052
Contact: m.lipson@unsw.edu.au; +614 111 000 31
ORCID: <https://orcid.org/0000-0001-5322-1796>
Current research: Developing new components of an urban environmental model, exploring interdependence between weather, urban form and building energy demand.

EDUCATION

ongoing **PhD: Climate Science Research.** UNSW Sydney, Australia
2011-2014 **Bachelor of Science.** UNSW Sydney, Australia
Majored in Physics and Astronomy. Honours in Climate Science (1st Class).
2009 **Architect Professional Registration.** NSW Board of Architects No. 8364.
2005 **Bachelor of Architecture.** University of Sydney.

AWARDS

2017 **AMOS Conference Student Poster Presentation.** Honourable mention.
2016 **Research Student Award, UNSW Postgraduate Council.**
For creating a lively research environment and supportive student atmosphere.
2016 **Postgraduate Review Presentation Prize.**
Best talk, UNSW Climate Change Research Centre.
2015 **Australian Meteorological and Oceanographic Society State Award.**
2014 New South Wales Award for Academic Excellence.
2014 **University of New South Wales Research Excellence Award.**
Best honours thesis, School of Biological, Earth and Environmental Sciences.

PUBLICATIONS

in review **Lipson, Thatcher, Hart, Pitman.** *A city-scale building energy demand and urban land surface model.*
2018 Turney, Palmer, Maslin, Hogg, Fogwill, Southon, Fenwick, Helle, Wilmshurst, McGlone, Ramsey, Thomas, **Lipson**, Beaven, Jones, Andrews, Hua. *Global Peak in Atmospheric Radiocarbon Provides a Potential Definition for the Onset of the Anthropocene Epoch in 1965.* Scientific Reports 8, 3293.
2018 Palmer, Turney, Fogwill, Fenwick, Thomas, **Lipson**, Jones, Beaven, Richardson, Wilmshurst. *Growth response of an invasive alien species to climate variations on subantarctic Campbell Island.* New Zeal. J. Ecol.
2017 **Lipson**, Hart, Thatcher. *Efficiently modelling urban heat storage: an interface conduction scheme in an urban land surface model (aTEB v2.0).* Geosci. Model Dev.
2017 Turney, Fogwill, Palmer, van Sebille, Thomas, McGlone, Richardson, Wilmshurst, Fenwick, Zunz, Goose, Wilson, Carter, **Lipson**, Jones, Harsch, Clark, Marzinelli, Rogers, Rainsley, Ciasto, Waterman, Thomas, Visbeck. *Tropical forcing of increased Southern Ocean climate variability revealed by a*

- 140-year subantarctic temperature reconstruction. *Clim. Past*
- 2016 Turney, McGlone, Palmer, Fogwill, Hogg, Thomas, **Lipson**, Wilmshurst, Fenwick, Jones, Hines, Clark. *Intensification of Southern Hemisphere westerly winds 2000–1000 years ago: evidence from the subantarctic Campbell and Auckland Islands (52–50°S)*. *J. Quaternary Sci.*
- 2016 Turney, Palmer, Hogg, Fogwill, Jones, Bronk Ramsey, Fenwick, Grierson, Wilmshurst, O'Donnell, Thomas, **Lipson**. *Multidecadal variations in Southern Hemisphere atmospheric 14C: Evidence against a Southern Ocean sink at the end of the Little Ice Age CO2 anomaly*. *Global Biogeochem. Cycles*.

CONFERENCES

- 2018 *A mixed physical/statistical city-scale energy demand model for Australia*. 25th National Conference of the Australian Meteorological and Oceanographic Society, Sydney, Australia (speaker).
- 2017 *Efficiently representing thermal processes in urban canopy models*. 97th American Meteorological Society Annual Meeting, Seattle, U.S.A. (poster).
- 2017 *From room to regional scales: developing a coupled energy demand & urban climate model*. 5th ARC Centre of Excellence for Climate System Science Workshop, Canberra, Australia (poster).
- 2017 *Improving urban climate models*. GlobalTech Global Fellows Programme, Berghausen, Germany (poster and attendee).
- 2016 *Improving the representation of heat storage in urban climate models*. National Conference of the Australian Meteorological and Oceanographic Society, Melbourne, Australia (speaker).
- 2016 *Developments in the aTEB urban land surface model*. 4th ARC Centre of Excellence for Climate System Science Workshop, Lorne, Australia (poster).
- 2015 *Adequately and efficiently representing heat conduction and storage for urban surfaces*. 9th International Conference on Urban Climate, Toulouse, France (speaker).
- 2014 *Efficiently simulating the impact of Australian urban areas on climate*. 3rd Australian Earth System Outlook Conference, Canberra, Australia

SKILLS & OUTREACH

- | | |
|-----------------|---|
| Leadership | 2016 Student Representative; UNSW Climate Change Research Centre; Convener for weekly computational tips and tricks office meeting. |
| Teaching | Ran lab for 2 nd year undergraduate <i>Introduction to Atmospheric Science</i> |
| Computing | Programming proficiency in Python and Fortran, experience in others. Experience running various regional land/atmosphere models. Attendee at NCAR WRF Tutorial in Boulder, January 2017. Proficiency in computer aided design (CAD) and graphics manipulation. |
| Public outreach | Lipson & Hart, <i>When the heat is on, we need city-wide plans to keep cool</i> ; theconversation.com ; 2017; http://bit.ly/2jKN2Hu
Lipson, Contractor and Goldie, <i>Is it hot right now?</i> https://isithotrightnow.com
Lipson, <i>The Urbanist</i> (personal research blog), https://theurbanist.com.au
Lipson, Wilson and Meduka, <i>Sea bird research on Ewing island</i> (video), https://youtu.be/euZpE1SWBBM |