

CURRICULUM VITAE

GEOFFREY K. VALLIS

Education

1977. B.A., Physics, Oxford University

1981. Ph. D., Physics, London University (Imperial College).

Professional History

2013 – . Professor, Applied Mathematics, University of Exeter.

1998 – 2013. Professor/Senior Research Scientist, AOS Program, Princeton Univ.

1989 – 1998. Associate Professor–Professor of Ocean Sciences.

Director, Center for Nonlinear Science, UC Santa Cruz

1983 – 1988. Assistant–Associate Researcher. SIO, UCSD.

1981 – 1983. Post-doctoral Researcher, SIO, UCSD.

Research Interests

Atmospheric and oceanic circulation and dynamics.

Planetary Atmospheres and Climate

Honors and Awards

Noble Lecturer, University of Toronto, 2019.

Honorary Visiting Professor, University of Liverpool, 2015.

Adrian Gill Prize, Royal Meteorological Society, 2014.

Royal Society Wolfson Research Merit Award, 2014.

Proudman Lecturer, NOC, Liverpool, 2014

Philip Thompson Lecturer, NCAR, 2013.

Stanislaw Ulam Distinguished Scholar, Los Alamos Nat'l Lab, 2013.

Victor Starr Memorial Lecturer, MIT, 2008.

Outreach, teaching and synergistic activity

Numerous public lectures on climate and climate change.

Author of non-specialist book *Climate and the Oceans*.

Former editor, *J. Atmos. Sci., Revs. Geophysics, Fluid Dynamics Research*

Taught numerous courses at both postgraduate and undergraduate levels.

Former Graduate and Postdoctoral Advisees:

M. Maltrud (LANL), A. Pares-Sierra (CICESE), P. Olla (U. Sardinia), J. Wang (Silicon Valley), K. Oetzel (Silicon Valley), J. Aroyan (unknown), M. Mundt (Seagate), R. Raskin (JPL), T. Huck (U. Brest), K. S. Smith (NYU), R. Scott (U. Brest), J. Loving (ret'd), C. Cartwright (ICF Inc.), N. Grianik (Financial), B. Fox-Kemper (Brown), B. Cash (COLA), R. Zhang (GFDL), E. Gerber (NYU), R. Zhao (Goldman)

Sachs), N. Fuckar (Barcelona), J. Mitchell (UCLA), A. Venaille (ENS, Lyon), J. Kidston (UNSW), M. Nikurashin (U. Hobart), G. Badin (U. Hamburg), S. Zhang (Qingdao), J. Penn (Start-up).

Grants

Continuously funded in last 20 years by NERC, NSF, NOAA, DOE and others.

Publications

Over 100 research articles in the peer-reviewed literature, and three sole-author books; sample below.

Books

Vallis, G. K. 2006 & 2017. *Atmospheric and Oceanic Fluid Dynamics: Fundamentals and Large-Scale Circulation*. Cambridge University Press. 946 pp. <http://tiny.cc/Vallis/aofd/>

Vallis, G. K. 2011. *Climate and the Oceans*. Princeton University Press. 232 pp. <http://tiny.cc/Vallis/climoce/>

Vallis, G. K. 2011. *Essentials of Atmospheric and Oceanic Dynamics*. Cambridge University Press. 360 pp. <http://tiny.cc/Vallis/essence/>

Selection of Recent Articles

Colyer, G. and Vallis, G.K., 2019. Zonal-mean atmospheric dynamics of slowly-rotating terrestrial planets. *J. Atmos. Sci.* In press.

Penn, J. and Vallis, G.K., 2018. Atmospheric dynamics and thermal phase-curve offset on tidally and nontidally locked exoplanets. *Astrophys. J.*, 868, 147.

Vallis, G.K., Parker, D.J. and Tobias, S.M., 2019. A simple system for moist convection: the Rainy-Bénard model. *J. Fluid Mech.*, 862, 162–199.

Vallis, G.K., Colyer, G., Geen, R., Gerber, E., Jucker, M., Maher, P., Paterson, A., Pietschnig, M., Penn, J. and Thomson, S.I., 2018. Isca, v1.0: A framework for the global modelling of the atmospheres of Earth and other planets at varying levels of complexity. *Geo. Model Dev.*, 2018. doi: 10.5194/gmd-2017-243.

Watson, A., Vallis, G.K. and Nikurashin, M., 2015. Southern ocean buoyancy forcing of ocean ventilation and glacial atmospheric CO₂. *Nature Geosciences*, 8, 861–864. Doi:10.1038/ngeo2538.

Vallis, G.K., 2016. Geophysical fluid dynamics: Whence, whither and why? *Proc. Roy. Soc. A*, 472, 1–23. doi: <http://dx.doi.org/10.1098/rspa.2016.0140>.

Vallis, G.K., Zurita-Gotor, P., Cairns, C. and Kidston, J., 2015. The response of the large-scale structure of the atmosphere to global warming. *Quart. J. Roy. Meteor. Soc.*, 141, 1479–1501. doi: 10.1002/qj.2456.

Nikurashin, M. and Vallis, G.K., 2012. A theory of deep stratification and interhemispheric overturning circulation and associated stratification. *J. Phys. Oceanogr.*, 42, 1652–1667.

Mitchell, J. and Vallis, G.K., 2010. The transition to superrotation in terrestrial atmospheres. *J. Geophys. Res. (Planets)*, p. 18. doi: 10.1029/2010JE003587.

Vallis, G.K., 2009. Mechanisms of climate variability from years to decades. In T. Palmer and P. Williams, eds., *Stochastic Physics and Climate Modelling*, pp. 1–35. Cambridge University Press.