

## Curriculum Vitae of Hendrik Anton Dijkstra

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### Biographical Data

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Born on June 2, 1960 in Smalingerland (Drachten), The Netherlands.  
Dutch citizen, married, 3 children.

Address (work): Institute for Marine and Atmospheric research Utrecht, Department of Physics and Astronomy, Utrecht University, Utrecht, The Netherlands.

Address (private): Turfstreek 235, 3766 HW Soest, The Netherlands

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### Education

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VWO: Ichthus College 1972-1978, Drachten, the Netherlands.

**Bachelor** degree in Mathematics: 1981, University of Groningen, The Netherlands.

**Bachelor** degree in Astronomy: 1982, University of Groningen, The Netherlands.

**MSc.** degree in (applied) Mathematics: 1984, cum laude, University of Groningen, The Netherlands.

**Ph.D.** degree in (applied) Mathematics: 1988, University of Groningen, The Netherlands, Thesis title: Mass transfer driven convection near gas-liquid interfaces. Promotores: prof. dr. ir. A.I. van de Vooren and prof. dr. ir. A.A.H. Drinkenburg.

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### Positions

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**July 2005 - :** Professor of Dynamical Oceanography at the Institute for Marine and Atmospheric research Utrecht, Department of Physics and Astronomy, Utrecht University, Utrecht, The Netherlands.

**January 2004 - July 2005:** Professor of Physical Oceanography at the Department of Atmospheric Science, Colorado State University, Fort Collins, CO, USA.

**April 2002 - November 2003:** Scientific Director of the Buys Ballot Research School for Fundamental Processes in the Climate System.

**February 2002 - November 2003:** Scientific Director of the Institute for Marine and Atmospheric research Utrecht, Department of Physics and Astronomy, Utrecht University, Utrecht, The Netherlands.

**October 2001 - December 2003:** Professor of Dynamical Oceanography at the Institute for Marine and Atmospheric research Utrecht, Department of Physics and Astronomy, Utrecht University, Utrecht, The Netherlands.

**July 1996- October 2001** Associate professor at the Institute for Marine and Atmospheric research Utrecht, Department of Physics and Astronomy, Utrecht University, Utrecht, The Netherlands.

**July 1990- July 1996:** Assistant professor at the Institute for Marine and Atmospheric research Utrecht, Department of Physics and Astronomy, Utrecht University, Utrecht, The Netherlands.

**July 1988 - June 1990:** Postdoctoral associate at the School of Chemical Engineering and the Mathematical Sciences Institute, Cornell University, Ithaca, New York, U.S.A.

**July 1984 - July 1988:** Ph.D. student, Department of Mathematics and Department of Chemical Engineering, University of Groningen, Groningen, The Netherlands.

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## Teaching Experience

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### *Courses at Utrecht University:*

**1990-1993:** Fluid Mechanics and Heat/Mass Transfer I; **1990-2000:** Fluid Mechanics and Heat/Mass Transfer II; **1994-1996:** Geophysical Fluid Dynamics II; **1993-2001:** Dynamical Oceanography; **2000-2001:** Seminar Computational Physics; **2002:** Introduction to Physical Oceanography; **Spring 2006-2008:** Advanced Mechanics (NS350B). **Spring 2008:** Stochastic Climate Models (MO440B). **Spring 2009:** Dynamical Oceanography (MO440B) and Introduction to Oceanography (Oceaan en Klimaat).

### *Courses at Colorado State University:*

**Spring 2004:** Physical Oceanography (AT680); **Fall 2004:** Nonlinear Climate Dynamics (AT765); **Spring 2005:** Introduction to Weather and Climate (AT320).

### *Invited lecturer at Summer Schools and Master Classes:*

**October 1996:** Master Class Mathematics, Utrecht University. Subject: Spatio Temporal Patterns; **September 1997:** Lecturer Summer School International Centre for Mechanical Sciences, Udine, Italy. Subject: Free surface flows; **September 1999:** Lecturer Summer School on Geophysical and Environmental Fluid Dynamics, DAMTP, Cambridge University, UK. Subject: Stability of the ocean circulation; **July 2001:** Lecturer Summer School on Geophysical Fluid Dynamics, Woods Hole, USA. Subject: Conceptual Climate Models; **September 2004:** Director Summer School on Dynamical Oceanography, Les Diablerets, Switzerland. Subject: Dynamical Systems in Physical Oceanography; **January 2006:** Lecturer Summer School on Turbulence, Australian National University, Canberra, Australia. Subject: Ocean Mixing; **August 2006:** Summer School on Modern Mathematical Methods in Physical Oceanography, Breckenridge, CO. Subject: Dynamical Systems in Physical Oceanography. **September 2007:** Director Summer School on Dynamical Oceanography, Les Diablerets, Switzerland. Subject: Dynamical Systems in Physical Oceanography; **June 2008:** Director (with A. Provenzale and M. Ghil) Summer School on Climate Biosphere interactions, Valsavarenche, Italy. **June 2009:** Lecturer at the Summerschool: Climate Variability and Climate Change: Estimating and reducing the uncertainties, Visegrad, Hungary.

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## Awards and Honors

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1996: NWO-PIONIER award on the project: Stability and Variability of the Climate System.

2002: Member of the Royal Netherlands Academy of Sciences and Arts (KNAW). Chair of the Earth Sciences section: 2009-

2005: Lewis Fry Richardson Medal, European Geosciences Union. Citation: *for his outstanding work in developing the nonlinear dynamical systems approach to oceanography and especially for his study of the role of ocean circulation in palaeoclimate.*

2009: Fellow of the Society for Industrial and Applied Mathematics (SIAM): *for advancements in oceanography and climate dynamics.*

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## Technical Experience

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1984-1986: Co-investigator Spacelab-D1 experiment WL-FPM-01, Department of Chemical Engineering, University of Groningen, The Netherlands.

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## International Scientific Activities

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### *Membership of International Organizations:*

European Geophysical Union (EGU); American Geophysical Union (AGU); American Meteorological Society (AMS); Society for Industrial and Applied Mathematics (SIAM)

### *Editorial activities:*

Editor **Reviews of Geophysics** (AGU), term 2005-2009.

Editor **Nonlinear Processes in Geophysics** (EGU), term 2005-2010.

Editor **Physica D** (Elsevier), term 2007-.

Editor **Dynamics of Oceans and Atmospheres** (Elsevier), term 2009-.

Editor **Il Nuovo Cimento B**, term 2009-.

### *Peer review:*

Reviewing regularly for journals in Computational Physics, Fluid Mechanics, Physical Oceanography and Climate Dynamics, such as J. Comp. Physics, J. Fluid Mechanics, J. Phys. Oceanography and J. Climate. Reviewing proposals for national and international funding agencies (e.g., NWO, NERC, NSF, NOAA, RCN, DOE).

### *Conference/workshop/Summer School activities:*

Convenor of the session: Dynamical Systems approaches to problems in Geophysics, EGU, 1999-2009.

EGU-Nonlinear Processes Program Committee Member (2008-).

EGU-Nonlinear Processes Division President (2009-).

Co-organiser of five workshops, one conference and four Summer Schools.

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**Research projects: (as primary investigator)**

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*University funding:*

**1992-1996:** Small scale mixing processes near ice-plates, E.J. Kranenburg; **2004-2005:** Ocean circulation changes during the Cretaceous, A. von der Heydt, UCG funding; **2005-2009:** Retroreflection of the Agulhas Current, M. Goronea.

*Science Foundation (NWO) funding:*

**1992-1996:** Meso-scale mixing processes in the Greenland Sea, M.J. Molemaker; **1996 - 2002:** Stability and Variability of the Climate System, NWO-PIONIER project: 1996 - 2002, Drs. M.J. Schmeits, Dr. R. van der Toorn, Dr. M.J. Molemaker, Dr. N. Rittmard, Drs. J. Nauw-Van der Vegt, Drs. L. te Raa, Dr. W. Weijer, Dr. H. Oksuzoglu, Dr. E. Simonnet, and Dr. P.C.F. van der Vaart; **2001-2004:** Rapid Changes in Complex Flows, W. Weijer (pd), L. te Raa (pd), NWO Program on Computational Physics; **2003-2007:** Reconstruction of the three-dimensional ocean circulation. A. Terwisscha van Scheltinga (phd), Technical Science Foundation (STW); **2004-2008:** Understanding the 'organic carbon pump' in mesoscale ocean flows. A. W. Omta (phd), NWO Program on Computational Life Sciences; **2006-2010:** A new approach to the spin-up problem in ocean-climate models. E. Bernsen (phd), NWO Program on Climate Variability; **2006-2010:** Atmospheric variability and the Atlantic Multidecadal Oscillation. L. Frankcombe (phd), NWO Program on Climate Variability **2006-2010:** Atmospheric feedbacks and the stability of the Atlantic MOC. M. den Toom (phd), NWO TOPTALENT **2009-2012:** Design of an optimal observing system for the oceans. W. Kramer (pd), NWO-ALW (SRON/GO) **2009-2012:** Changes in vertical stratification and its impact on phytoplankton communities (STRATIPHYT). E. Jurado (pd), NWO/ALW (ZKO) **2009-2013:** Indian-Atlantic exchange in present and past climate (INATEX). Dewi Les Bars (phd), NWO/ALW (ZKO).

*NRP (National Research Programme, NL) funding:*

**1993-1997:** Nonlinear Dynamics of the Equatorial Ocean-Atmosphere System, Drs. P.C.F. van der Vaart and Drs. D. Jansen.

*EU funding:*

**2005-2006:** Ensemble simulations of changes in extreme events due to nonlinear climate changes (ESSENCE), DEISA Extreme Computing Initiative.

*NSF (National Science Foundation, USA) funding:*

**2004 - 2007:** Adjustment of the ACC to Variability in Southern ocean Winds: A Modal Point of View, Co-PI: Sarah T. Gille, University of California, San Diego Scripps Institution of Oceanography; **2004 - 2008:** Collaborative Research: Physical Mechanisms of (inter)Decadal Variability of the North Atlantic Ocean Circulation, Co-PI: Michael A. Spall, Woods Hole Oceanographic Institution; **2004 - 2006:** CMG Collaborative Training: Modern Mathematical Methods in Physical Oceanography; **2005 - 2008:** Collaborative Research: The Agulhas Current System: a key control of Atlantic Climate. Co-PI: D. Nof, Florida State University.

*Past Ph.D. students*

**E.J. Kranenborg**, Double diffusive convection due to lateral thermal forcing. Utrecht University, Promotor: prof. W.P.M. de Ruijter. Co-promotor: Dr. ir. H.A. Dijkstra. Thesis defence Oktober 6, 1997 ; **M.J. Molemaker**, Thermohaline Flows on Different Scales. Utrecht University, Promotor: prof. W.P.M. de Ruijter. Co-promotor: Dr. ir. H.A. Dijkstra. Thesis defence: September 17, 1997; **P.C.F. van der Vaart**, Nonlinear Tropical Climate Dynamics. Utrecht University, Promotor: prof. W.P.M. de Ruijter. Co-promotor: Dr. ir. H.A. Dijkstra. Thesis defence: May 14, 1998. ; **W. Weijer**, Impact of interocean exchange on the Atlantic overturning circulation. Utrecht University, Promotor: prof. W.P.M. de Ruijter. Co-promotor: Dr. ir. H.A. Dijkstra. Thesis defence: May 8, 2000; **C. Katsman**, Internal variability of the wind-driven ocean circulation. Utrecht University, Promotor: prof. W.P.M. de Ruijter. Co-promotor: Dr. ir. H.A. Dijkstra Thesis defence: May 9, 2001; **M.J. Schmeits**, Bimodality and variability of western boundary currents. Utrecht University, Promotor: prof. W.P.M. de Ruijter. Co-promotor: Dr. ir. H.A. Dijkstra. Thesis defence: June 8, 2001; **E. van der Avoird**, Low-frequency variability in the coupled ocean-atmosphere system at midlatitudes. Utrecht University, Promotores: prof. dr. C. Schuurmans and prof. dr. ir. H.A. Dijkstra Thesis defence: May 13, 2002; **L. A. te Raa**, Internal variability of the thermohaline ocean circulation. Utrecht University, Promotores: prof. dr. ir. H.A. Dijkstra and prof. W.P.M. de Ruijter. Thesis defence: May, 21, 2003; **J. Nauw-van der Vegt**, Low-frequency variability of the wind-driven ocean circulation. Utrecht University, Promotores: prof. dr. ir. H.A. Dijkstra and prof. W.P.M. de Ruijter. Thesis defence: September 3, 2003; **V. Palastanga**, Oceanic variability around Madagascar: connections to the large-scale Indian Ocean circulation and its forcing. Utrecht University, Promotor: prof. dr. W. P. M. de Ruijter and prof. dr. ir. H.A. Dijkstra. Thesis defence: June 4, 2007; **A. Terwisscha van Scheltinga**, Data assimilation using implicit ocean models. Utrecht University, Promotor: prof. dr. ir. H.A. Dijkstra. Thesis defence: October 24, 2007; **A. W. Omta**, Eddies and Algal Stoichiometry: Physical and biological impacts on the organic carbon pump. Free University Amsterdam, Promotores: prof. dr. ir. S.A.L.M. Kooijman (VU) and prof. dr. ir. H.A. Dijkstra. Thesis defence: March 6, 2009.

*Current Ph.D. students (starting year):*

Erik Bernsen (2006), Leela Frankcombe (2006), Selma Huisman (2006), Matthijs den Toom (2008), Andrea Cimadoribus (2008), Dewi le Bars (2009).

## Publications

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### Journals and book chapters

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1. **Dijkstra**, H.A. & van de Vooren, A.I., Initial flow development due to Marangoni convection in a mass transfer system. *Int. J. Heat Mass Transfer* **28**, 2315 - 2322, (1985).
2. Lichtenbelt, J.H., Drinkenburg, A.A.H. & **Dijkstra**, H.A., Marangoni convection and mass transfer from the liquid to the gasphase under microgravity conditions, *Naturwissenschaften* **73**, 356 - 359, (1986).
3. Lichtenbelt, J.H., **Dijkstra**, H.A. & Drinkenburg, A.A.H. Marangoni convection and mass transfer from the liquid to the gasphase. *Adv. Space Res.*, **6**, 61-64, (1986).
4. **Dijkstra**, H.A., Transient Marangoni convection in a square container, *Physico Chemical Hydrodynamics*, **10**, 493 - 515, (1988).
5. **Dijkstra**, H.A. & Lichtenbelt, J.H., Mass transfer driven Marangoni convection under micro-gravity, *Microgravity Science Technology*, **1** (4), 180-187, (1988).
6. Van de Vooren, A.I. & **Dijkstra**, H.A., A finite element stability analysis for the Marangoni problem in a rectangular container with rigid sidewalls, *Comp. Fluids*, **17**, 467-485, (1989).
7. **Dijkstra**, H.A. & van de Vooren, A.I., Multiplicity and stability of steady solutions for Marangoni convection in a 2D rectangular container with rigid sidewalls, *Num. Heat Transfer*, **16**, 59-75, (1989).
8. **Dijkstra**, H.A., & Drinkenburg, A.A.H., Enlargement of wetted area and mass transfer due to surface tension gradients: The creeping film phenomenon, *Chem. Engng. Sci.*, **45**, 1079-1088, (1990).
9. **Dijkstra**, H.A., book review on: Low gravity fluid mechanics: Mathematical theory of capillary phenomena. *Siam Review*, **32**, 691-693, (1990).
10. **Dijkstra**, H.A., The coupling of capillary and Marangoni instabilities in an annular thread of liquid, *J. Coll. Int. Science*, **136**, 151 - 159, (1990).
11. Tinge, J.T., **Dijkstra**, H.A., Boelen, J., Stoelwinder, C.J.C., Drinkenburg, A.A.H., Gas separation in a three-phase bubble column, *Chem. Engng. Sci.*, **45**, 1113-1123, (1990).
12. Swart, J.A.A., **Dijkstra**, H.A., & Korf, J., A graphical method to determine sigmoid ligand binding in vivo at low doses *J. Pharmacological Methods*, **23**, 97-105, (1990)
13. **Dijkstra**, H.A. & Steen, P.H., Thermocapillary stabilization of capillary break-up of an annular film of liquid, *J. Fluid Mech*, **229**, 205-228, (1991).

14. **Dijkstra**, H.A., The structure of two-dimensional cellular solutions for Rayleigh-Bénard-Marangoni convection in rectangular containers, *J. Fluid Mech.*, **243**, 73-102, (1992).
15. **Dijkstra**, H.A., The coupling of interfacial instabilities and the stabilization of two-layer annular flows, *Phys. Fluids A*, **4**, 1915 - 1928, (1992).
16. **Dijkstra**, H.A., On the shear stabilization of capillary break-up of finite liquid bridges, *Microgravity Science and Techn.*, **6**, 13-27, (1993).
17. Molemaker, M.J. & **Dijkstra**, H.A., Double diffusive and direct instabilities below growing sea-ice, *Int. J. Heat Mass Transfer*, **37**, 2547-2559, (1994).
18. **Dijkstra**, H.A., Surface tension driven flows in three-dimensional boxes. I: Linear stability, *Microgravity Science and Technology*, **7**, 307-312, (1995).
19. **Dijkstra**, H.A., Molemaker, M.J., van der Ploeg, A. & Botta, E.F.F., An efficient code to compute steady non-parallel flows and their linear stability in parameter space, *Computers & Fluids*, **24**, 415-434, (1995).
20. Kranenborg, E.J. & **Dijkstra**, H.A., The structure of (linearly) stable double diffusive flow patterns in a laterally heated stratified liquid, *Phys. Fluids*, **7**, 680-682, (1995).
21. **Dijkstra**, H.A., Surface tension driven flows in three-dimensional boxes. II: A bifurcation study. *Microgravity Science and Technology*, **8**, 70 - 77, (1995).
22. **Dijkstra**, H.A., Surface tension driven flows in three-dimensional boxes. III: The formation of hexagonal patterns. *Microgravity Science and Technology*, **8**, 155 - 162, (1995).
23. Kranenborg, E.J. & **Dijkstra**, H.A., Double diffusive flow patterns in the unicellular flow regime: attractor structure and flow development, in *AGU Geophysics monograph series: Double diffusive convection*, ed. Brandt, A. and H.J.S. Fernando, 89 - 96, (1995).
24. Molemaker, M.J. & **Dijkstra**, H.A., Layer formation in a salt stratified liquid cooled from above, in *AGU Geophysics monograph series: Double diffusive convection*, ed. Brandt, A. and H.J.S. Fernando, 97 - 104, (1995).
25. **Dijkstra**, H.A., Bénard-Marangoni flow patterns in three-dimensional boxes, in *Non-linear Dynamics and Pattern Formation in the Natural Environment*, ed. Doelman, A. & van Harten, A., Longman, 73 - 84, (1995).
26. Neelin, J.D. & **Dijkstra**, H.A., Coupled ocean-atmosphere interaction and the Tropical Climatology. I: The dangers of flux-correction, *J. Climate*, **8**, 1343-1359, (1995).
27. **Dijkstra**, H.A. & Neelin, J.D., On the attractors of an intermediate coupled ocean-atmosphere model, *Dyn. Atm. Oceans*, **22**, 19-48, (1995).
28. **Dijkstra**, H.A. & Neelin, J.D., Coupled ocean-atmosphere interaction and the Tropical Climatology. II: Why the cold tongue is in the east, *J. Climate*, **8**, 1360-1378, (1995).

29. Speich, S., **Dijkstra**, H.A. & Ghil, M., Successive bifurcations in a shallow water layer model, with applications to the wind driven ocean circulation, *Nonlinear Processes in Geophysics*, **2**, 245- 280, (1995).
30. **Dijkstra**, H.A. & Kranenborg, E.J., A bifurcation study of double diffusive flow patterns in a stably stratified liquid layer heated from the side, *Int. J. Heat Mass Transfer*, **39**, 2699-2710, (1996).
31. **Dijkstra**, H.A. & De Ruijter, W.P.M., Finite amplitude stability of the wind driven ocean circulation, *Geophysical & Astrophysical Fluid Dynamics*, **83**, 1 - 31, (1996).
32. Molemaker, M.J. & **Dijkstra**, H.A., The formation and evolution of a diffusive interface, *J. Fluid Mech.*, **331**, 199 - 229, (1997).
33. P.C.F. Van der Vaart and **Dijkstra**, H.A., Sideband instabilities of mixed barotropic / baroclinic waves growing on a midlatitude jet, *Phys. Fluids*, **9**, 615-631, (1997).
34. **Dijkstra**, H.A. & Molemaker, M.J., Symmetry breaking and overturning oscillations in thermohaline driven flows, *J. Fluid Mech.*, **331**, 169 - 198, (1997)
35. **Dijkstra**, H.A. & Katsman, C.A., Temporal variability of the quasi-geostrophic wind-driven ocean circulation: basic bifurcation diagrams, *Geophysical & Astrophysical Fluid Dynamics*, **85**, 195-232 (1997).
36. Kranenborg, E.J. & **Dijkstra**, H.A., The evolution of double diffusive intrusions into a laterally heated stratified liquid: A study of the layer merging process, *Int. J. Heat Mass Transfer*, **41**, 2743-2756, (1998).
37. **Dijkstra**, H.A. & Kranenborg, E.J., The evolution of double diffusive intrusions into a laterally heated stratified liquid: The physics of self-propagation, *Int. J. Heat Mass Transfer*, **41**, 2113-2124, (1998).
38. Kranenborg, E.J. & **Dijkstra**, H.A., Double diffusive layer formation near a cooled liquid-solid boundary, *Int. J. Heat Mass Transfer* **41**, 1873-1884, (1998).
39. **Dijkstra**, H.A., Molemaker, M.J. & Kranenborg, E.J., Layer formation in double diffusive convection, in Time-dependent Nonlinear Convection, ed. P.A. Tyvand, *Advances in Fluid Mechanics*, **19**, 139-176, (1998).
40. **Dijkstra**, H.A., Pattern selection in surface tension driven flows, in Free Surface Flows, ed. Kuhlman, H. & Rath, H.J., CISM courses and lectures no. 391, Springer, 101- 144, (1998).
41. **Dijkstra**, H.A. and Van der Vaart, P.C.F., On the physics of upgradient momentum transport in unstable midlatitude zonal jets, *Geophysical and Astrophysical Fluid Dynamics*, **88**, 295-323, (1998)
42. Katsman, C.A. **Dijkstra**, H.A. and S.S. Drijfhout, The rectification of wind-driven flow due to its instabilities, *J. Mar. Res*, **56**, 559-587, (1998).

43. Van der Vaart, P.C.F. & **Dijkstra**, H.A., The weakly nonlinear evolution of unstable coupled equatorial ocean-atmosphere modes, *Nonlinear Processes in Geophysics*, **5**, 39-52, (1998).
44. Katsman, C. A., **Dijkstra**, H.A. and Schmeits, M. J. Applications of continuation methods in physical oceanography, in Continuation methods in Fluid Dynamics, ed. D. Henry and A. Bergeon, Notes on Numerical Fluid Mechanics vol. 74, 179-198, (1999).
45. **Dijkstra**, H.A. and P.C.J. van der Vaart, Instabilities of the coupled equatorial ocean-atmosphere, in Fluid Dynamics at Interfaces, ed. W. Shyy and R. Narayanan, Cambridge University Press, 179-198, (1999).
46. **Dijkstra**, H.A. & M.J. Molemaker, Imperfections of the North-Atlantic wind-driven circulation: continental geometry and asymmetric windstress, *J. Mar. Res.*, **57**, 1-28, (1999).
47. **Dijkstra**, H.A. & J.D. Neelin, Imperfections of the thermohaline circulation: Multiple equilibria and flux-correction, *J. Climate*, **12**, 1382-1392, (1999)
48. **Dijkstra**, H.A. & J.D. Neelin, Coupled processes and the Tropical Climatology. III: Instabilities of fully coupled climatologies, *J. Climate*, **12**, 1630-1643, (1999).
49. Weijer, W., Van Leeuwen, P.J. **Dijkstra**, H.A. & W.P.M. de Ruijter, Impact of interbasin exchange on the Atlantic overturning, *J. Phys. Oceanography*, **29**, 2266-2284, (1999).
50. **Dijkstra**, H.A., M.J. Schmeits & C.A. Katsman, Natural variability of the North-Atlantic wind-driven ocean circulation, *Surveys in Geophysics*, **20**, 463-502, (1999).
51. **Dijkstra**, H.A. & J.D. Neelin, Imperfections of the thermohaline circulation: Latitudinal asymmetry and preferred northern sinking, *J. Climate* **13**, 366-382, (2000).
52. Van der Vaart, P.C.F. & **Dijkstra**, H.A. and F.F. Jin, The Pacific Cold Tongue and the ENSO mode: unified theory within the ZC-model, *J. Atm. Sciences.*, **57**, 967-988, (2000).
53. M.J. Molemaker & **Dijkstra**, H.A., Multiple equilibria and stability of the North-Atlantic wind-driven ocean circulation, in *Numerical Methods for Bifurcation Problems and Large Scale Dynamical Systems.*, ed. E. Doedel and L. Tuckerman, IMA Volumes in Mathematics and its Applications, Volume 119, 303-318, (2000).
54. M.J. Molemaker & **Dijkstra**, H.A., Stability of a cold core eddy in the presence of convection: hydrostatic versus non-hydrostatic modelling, *J. Phys. Oceanography*, **30**, 475-494, (2000).
55. M.J. Schmeits & **Dijkstra**, H.A., The physics of the 9-month variability of the Gulf Stream: combining data and dynamical systems analysis, *J. Phys. Oceanography*, **30**, 1967-1987, (2000).

56. Weijer, W., Ruijter, de W.P.M. & **Dijkstra**, H.A., Stability of the Atlantic overturning circulation: competition between Bering Street freshwater flux and Agulhas heat and salt sources, *J. Phys. Oceanography*, **31**, 2385–2402, (2001).
57. Katsman, C. A., Drijfhout, S. S. & **Dijkstra**, H.A., The interaction of a deep western boundary current and the wind-driven gyres as a cause of low-frequency variability, *J. Phys. Oceanography*, **31**, 2321–2339, (2001).
58. **Dijkstra**, H.A. & De Ruijter, W.P.M., On the physics of the Agulhas Current: steady retroreflection regimes, *J. Phys. Oceanography*, **31**, 2971-2985, (2001).
59. Schmeits, M.J. & **Dijkstra**, H.A., Bimodal behavior of the Kuroshio and the Gulf Stream, *J. Phys. Oceanography*, **31**, 3435-3456, (2001).
60. **Dijkstra**, H.A. & De Ruijter, W.P.M., Barotropic instabilities of the Agulhas Current system and their relation to ring formation, *J. Mar. Research*, **59**, 517-533, (2001).
61. Weijer, W. & **Dijkstra**, H. A., A bifurcation study of the three-dimensional thermohaline ocean circulation: the double-hemispheric case, *J. Mar. Research*, **59**, 599-631, (2001).
62. Nauw, J. & **Dijkstra**, H.A., The origin of low-frequency variability of double-gyre wind-driven flows, *J. Mar. Research*, **59**, 567-597 , (2001).
63. **Dijkstra**, H.A. Oksuzoglu, H., Wubs, F.W. & Botta, E. F. F. A fully implicit model of the three-dimensional thermohaline ocean circulation, *J. Comp. Physics*, **176**, 685-715, (2001).
64. **Dijkstra**, H. A. and G. Burgers, Fluid Mechanics of El Niño variability, *Ann. Review of Fluid Mechanics*, **34**, 531-558, (2002).
65. Raa, te L. A. & **Dijkstra**, H.A., Instability of the thermohaline circulation on inter-decadal time scales, *J. Phys. Oceanography*, **32**, 138-160, (2002).
66. Kooijman, S. A. L. M., **Dijkstra**, H. A., & Kooi, B. W., Light induced mass turnover in a mono-species community of mixotrophs, *J. Theoretical Biology*, 214: 233-254 (2002).
67. Simonnet, E. & **Dijkstra**, H. A., Spontaneous generation of low-frequency modes of variability in the wind-driven ocean circulation, *J. Phys. Oceanography*, **32**, 1747–1762, (2002).
68. Avoird, van der E. and **Dijkstra**, H. A. and Nauw, J. & Schuurmans, C., Nonlinearly induced low-frequency variability in the midlatitude coupled ocean-atmosphere system, *Climate Dynamics*, **19**, 303-320, (2002).
69. De Kloe, J. and Van der Steen, A. and Oksuzoglu, H. and **Dijkstra**, H. A., A fully implicit parallel ocean model using MUMPS, *J. Supercomputing*, **23**, 167-183, (2002).
70. P. C. F. Van der Vaart, H. Schuttelaars, D. Calvete & **Dijkstra**, H. A., Instability of time-dependent wind-driven ocean gyres, *Phys. Fluids*, **14** (10), 3601–3615, (2002).

71. Ritemard, N. and Zwagers, T. & **Dijkstra**, H. A., Was there a wind-driven Tethys Circulglobal Current in the Late Cretaceous?, *Earth and Planetary Science Letters*, **203**, 741–753, (2002).
72. M. J. Schmeits & **Dijkstra**, H. A., Intra-annual variability of the ocean circulation in the Kuroshio region, *J. Geophys. Res.*, **107**(C12), 3235, doi:10.1029/2001JC001073, (2002).
73. Schouten, M. W., W. P. M. de Ruijter, P.J. van Leeuwen, and H. A. Dijkstra, An oceanic teleconnection between the equatorial and southern Indian Ocean. *Geophys. Res. Lett.*, **29**, 10.1029/2001GL014542, (2002).
74. C. Katsman, P. van der Vaart, **Dijkstra**, H. A. & W.P.M de Ruijter, On the stability of multi-layer ocean vortices: a parameter study including realistic Gulf Stream and Agulhas Rings, *J. Phys. Oceanography*, **33**, 1197–1218, (2003).
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