

CURRICULUM VITAE



Dr. Matthias Cuntz

Department Computational Hydrosystems
Helmholtz Centre for Environmental Research – UFZ
Permoserstr. 15
04318 Leipzig
Germany

Date of birth 16 February 1971
Nationality German

Professional Experience

- From 05/2009 Senior Scientist – **Helmholtz Centre for Environmental Research – UFZ**, Leipzig, Germany; Department head: Prof. S. Attinger
- 2008 Visiting Scientist – **Max Planck Institute for Meteorology**, Hamburg, Germany; Collaborator: Dr. C. Reick
- 2007-2009 Scientist – **Max Planck Institute for Biogeochemistry**, Jena, Germany; Advisor: Prof. M. Heimann
- 2005-2006 Visiting Fellow – **Research School of Biological Sciences**, The Australian National University, Canberra, Australia; Advisor: Prof. G.D. Farquhar
- 2005 Visiting Scientist – **Lawrence Berkeley National Laboratory**, Berkeley, California; Collaborator: Dr. W.J. Riley
- 2003-2004 Postdoctoral Fellow – **Research School of Biological Sciences**, The Australian National University, Canberra, Australia; Advisor: Prof. G.D. Farquhar
- 2003 Postdoctoral research scientist – **Laboratoire des Sciences du Climat et de l'Environnement**, Gif-sur-Yvette, France; Advisor: Dr. P. Ciais
- 1998-2002 Dissertation – **Laboratoire des Sciences du Climat et de l'Environnement**, Gif-sur-Yvette, France; Advisors: Dr. P. Ciais and Dr. I. Levin
- 1998 Research Assistant – **Institute for Environmental Physics**, Heidelberg University, Germany; Advisor: Dr. I. Levin
- 1997-1998 Diploma Thesis – **Institute for Environmental Physics**, Heidelberg University, Germany; Advisor: Dr. I. Levin
- 1996-1998 Research Assistant – **Radiocarbon Facility**, Heidelberg Academy of Sciences and Humanities, Heidelberg, Germany; Advisor: Dr. B. Kromer
- 1995-1996 Management Assistant Internship – Management Systems Department, **Procter & Gamble**, Eastern Europe Division, Frankfurt, Germany; Advisor: W. Safarzynski
- 1994-1997 Scientific Consultant – **Institute for Energy and Environmental Research Heidelberg GmbH**, Germany; Advisor: H. Hertle

Education

- 1998-2002 Dissertation, 20. 11. 2002, **Heidelberg University**, Germany. Conducted at **Laboratoire des Sciences du Climat et de l'Environnement**, Gif-sur-Yvette, France
- 1996-1997 Diploma, **Institute for Environmental Physics**, Heidelberg University, Germany
- 1993-1994 Graduate research student in Physics, **Heriot-Watt University Edinburgh**, Scotland
- 1990-1998 Diploma in Physics, 19. 01. 1998, **Heidelberg University**, Germany
- 1977-1990 Abitur, 31. 05. 1990, **Gymnasium Bad Bergzabern**, Germany

Research Project Participations

Since 2010	Disentangling seasonal vegetation effects on ecosystem evapotranspiration and water use efficiency of a Mediterranean savannah-type oak forest, German Research Foundation (DFG) project
Since 2010	Water & Earth System Science research institute (WESS): the impact of changing environmental conditions on the water cycle and on the fate of pollutants and nutrients in water, soil and aquifers at the catchment scale, Joint project of Universities Tübingen, Hohenheim and Stuttgart and Helmholtz Centre for Environmental Research – UFZ, Leipzig, Germany
Since 2009	Terrestrial Environmental Observatories (TERENO), Helmholtz Association Integrated Project
Since 2009	Regional Climate Change: From observations and modelling to decision support for mitigation and adaptation (REKLIM), Helmholtz Association Climate-Initiative
Since 2008	Earth System Network of Integrated Modelling and Assessment (ENIGMA), Max Planck Society Integrated Project
Since 2008	Stable isotopes in precipitation, model & data (GNIP-Dynscape), International Atomic Energy Agency (IAEA) Project
2005-2008	Constraining carbon gross fluxes with oxygen isotopes (COCO), EU Marie Curie Outgoing International Fellowship
2005-2007	Oxygen-18 in water, carbon dioxide, and organic matter: a tool for linking plant biological processes, hydrology and climate change, Australian Research Council (ARC) Discovery Grant
2005-2006	Isotopes in Project for Intercomparison of Land-surface Parameterization Schemes (iPILPS), International Geosphere-Biosphere Program (IGBP) Project
2004-2006	Moisture Isotopes in the Biosphere and Atmosphere (MIBA), IAEA Project
2002-2007	Stable Isotopes in Biosphere-Atmosphere Exchange (SIBAE), European Science Foundation (ESF) Project
2000-2003	Airborne European Regional Observations of the Carbon Balance (AEROCARB), EU Project
Since 2000	Biosphere-Atmosphere Stable Isotope Network (BASIN), US National Science Foundation (NSF) Project
1998-2000	Eurosiberian Carbonflux, EU Project
1997-1999	Zeitliche Entwicklung des anthropogenen CO ₂ - und CH ₄ -Anteils in Deutschland und dessen Bedeutung für den globalen atmosphärischen Kohlenstoffkreislauf, Umweltbundesamt (UBA) Forschungsvorhaben 295 43 173

Scientific Services

Reviewer	Journal of Geophysical Research – Atmosphere and Biogeosciences; Tellus; Earth & Planetary Science Letters; Global Change Biology, Oecologia; Plant Physiology; Plant, Cell & Environment; New Phytologist; Functional Plant Biology; Annals of Botany, Biogeosciences
Lecturer	Helmholtz Centre for Environmental Research – UFZ, Leipzig, Germany; Jena University, Germany; Australian National University, Canberra, Australia; Australian Nuclear Science and Technology Organisation, Sydney, Australia; Heidelberg University, Germany; Miscellaneous summer schools

Other Skills

Languages	German – mother tongue, English and French – fluent Fortran, IDL, Bash, Python and C – fluent
Sports	Fencing (international competitions), Squash, Ultimate
Music	Trumpet

Publications

Book chapters

- Hoffmann G, **Cuntz M**, Jouzel J & Werner M, A systematic comparison between the IAEA/GNIP isotope network and Atmospheric General Circulation Models: How much climate information is in the water isotopes?, in Aggarwal PK, Gat JR and Froehlich KFO (eds.), *Isotopes in the Water Cycle - Past, Present and Future of a Developing Science*, Springer Verlag, Dordrecht, The Netherlands, 2006
- Ciais P, **Cuntz M**, Scholze M, Mouillot F, Peylin P & Gitz V, Remarks on the use of ^{13}C and ^{18}O isotopes in atmospheric CO_2 to quantify biospheric carbon fluxes, in Flanagan LB, Ehleringer JR and Pataki DE (eds.) *Stable Isotopes and Biosphere-Atmosphere Interactions*, Academic Press, San Diego, 235-267, 2005

Journal articles

- Wingate L, Ogée J, **Cuntz M**, Genty B, Reiter I, Seibt U, Yakir D, Peylin P, Miller JB, Burlett R, Maseyk K, Mencuccini M, Pendall EG, Shim JH, Barbour MM, Hunt J, Mortazavi B & Grace J, The impact of soil micro-organisms on the global budget of $\delta^{18}\text{O}$ in atmospheric CO_2 , *Proceedings of the National Academy of Sciences*, accepted 13.10.2009
- Hartard B, **Cuntz M**, Máguas C & Lakatos M, Water isotopes in desiccating lichens, *Planta* 231, 179-193, 2009
- Ferrio JP, **Cuntz M**, Offermann C, Siegwolf R, Saurer M & Gessler A, Effect of water availability on leaf water isotopic enrichment in beech seedlings shows limitations of current fractionation models, *Plant, Cell & Environment* 32, 1285-1296, 2009
- Haverd VE, Leuning R, Griffith D, van Gorsel E & **Cuntz M**, The turbulent Lagrangian time scale in forest canopies constrained by fluxes, concentrations and source distributions, *Boundary-Layer Meteorology* 130, 209-228, 2009
- McDowell NG, Baldocchi DD, Barbour MM, Bickford C, **Cuntz M**, Hanson D, Knohl A, Powers H, Rahn T, Randerson JT, Riley WJ, Still CJ, Tu K & Walkroft A, Measuring and modeling the stable isotope composition of biosphere-atmosphere CO_2 exchange: where are we and where are we going? *Eos, Transactions, American Geophysical Union* 89(10), 2008
- Haverd VE, **Cuntz M**, Leuning R & Keith H, Air and biomass heat storage fluxes in a forest canopy: calculation within a Soil Vegetation Atmosphere Transfer model, *Agricultural and Forest Meteorology* 147(3-4), 125-139, 2007
- Paltridge GW, Farquhar GD & **Cuntz M**, Maximum entropy production, cloud feedback and global warming, *Geophysical Research Letters* 34, L14708, 2007
- Cuntz M**, Ogée J, Farquhar GD, Peylin P & Cernusak LA, Modelling advection and diffusion of water isotopologues in leaves, *Plant, Cell & Environment* 30, 829-909, 2007
- Ogée J, **Cuntz M**, Peylin P & Bariac T, Non-steady-state, non-uniform transpiration rate and leaf anatomy effects on the progressive stable isotope enrichment of leaf water along monocot leaves, *Plant, Cell & Environment* 30, 367-387, 2007
- Ogée J, Peylin P, **Cuntz M**, Bariac T, Brunet Y, Berbigier P, Richard P & Ciais P, Partitioning net ecosystem carbon exchange into net assimilation and respiration with canopy-scale isotopic measurements: an error propagation analysis with $^{13}\text{CO}_2$ and CO^{18}O data, *Global Biogeochemical Cycles* 18, GB2019, 2004
- Hoffmann G, **Cuntz M**, Weber C, Ciais P, Friedlingstein P, Heimann M, Jouzel J, Kaduk J, Maier-Reimer E, Seibt U & Six K, A model of the Earth's Dole Effect, *Global Biogeochemical Cycles* 18, GB1008, 2004
- Cuntz M**, Ciais P, Hoffmann G & Knorr W, A comprehensive global three-dimensional model of $\delta^{18}\text{O}$ in atmospheric CO_2 , 1. Validation of surface processes, *Journal of Geophysical Research* 108(D17), 4527, 2003
- Cuntz M**, Ciais P, Hoffmann G, Allison CE, Francey RJ, Knorr W, Tans PP, White JWC & Levin I, A comprehensive global three-dimensional model of $\delta^{18}\text{O}$ in atmospheric CO_2 , 2. Mapping the atmospheric signal, *Journal of Geophysical Research* 108(D17), 4528, 2003
- Cuntz M**, Ciais P & Hoffmann G, Modelling the continental effect of oxygen isotopes over Eurasia, *Tellus* 54B(5), 895-909, 2002

- Langendörfer U, **Cuntz M**, Ciais P, Peylin P, Bariac T, Milukova I, Kolle O & Levin I, Modelling of biospheric CO₂ gross fluxes via oxygen isotopes in a spruce forest canopy: a ²²²Rn calibrated box model approach, *Tellus* 54B(5), 476-496, 2002
- Levin I, Born M, **Cuntz M**, Langendörfer U, Mantsch S, Naegler T, Schmidt M, Varlagin A, Verclas S & Wagenbach D, Observations of atmospheric variability and soil exhalation rate of Radon-222 at a Russian forest site: Technical approach and deployment for boundary layer studies, *Tellus* 54B(5), 462-475, 2002
- Levin I, Glatzel-Mattheier H, Marik T, **Cuntz M**, Schmidt M & Worthy D, Verification of German methane emission inventories and their recent changes based on atmospheric observations, *Journal of Geophysical Research* 104(D3), 3447-3456, 1999

Miscellaneous reviewed

- Cuntz M**, A comprehensive global three-dimensional model of δ¹⁸O in atmospheric CO₂, *Dissertation*, University of Heidelberg, Germany, 2002
- Cuntz M**, The Heidelberg ²²²Radon Monitor — Calibration, Optimisation, Application, *Diploma thesis*, University of Heidelberg, Germany, 1997

Invited talks

- 2010 • Isotopes in the global carbon cycle, *Life Science Centre-Seminar, University Hohenheim, Germany*
- 2009 • Carbon isotopes in an Earth system model, *Workshop Application of stable isotopes for studying and modelling soil respiration and soil organic matter cycling, COST Action ES806: Stable Isotopes in Biosphere-Atmosphere-Earth System Research (SIBAE), Innsbruck, Austria*
- 2008 • The oxygen isotope puzzle, *Symposium for Max-Planck independent junior research group leader applicants, Berlin, Germany*
- Improving water and carbon cycle representations in climate models with oxygen isotopes, *Helmholtz Centre for Environmental Research – UFZ, Leipzig, Germany*
 - Carbon isotope discrimination during photosynthesis, *Max Planck Institute for Meteorology, Hamburg, Germany*
 - Water isotopes in ECHAM4, *Stable isotopes in precipitation, model & data workshop, International Atomic Energy Agency, Vienna, Austria*
- 2007 • Leaf water isotope signals – A crossroad between plant physiology, fluid mechanics and biogeochemistry, *Colloquium of the faculty of Biology, University Kaiserslautern, Germany*
- Isotopes in a piñon-juniper mixed stand, *Lawrence Livermore National Laboratory, Santa Fe, New Mexico*
 - Introduction to Isotope Modelling, *Lecture at SIBAE spring school: Isotopes in Ecology, Vienna, Austria*
 - Isotope Modelling workshop, *SIBAE spring school: Isotopes in Ecology, Vienna, Austria*
- 2006 • Isotopes in atmospheric gases – The Answer to Life, the Universe and Everything?, *School of Geosciences, The University of Edinburgh, Scotland*
- Modelling the isotopic composition of atmospheric gases: long-term isotope records, *Isotopes as Tracers of Ecological Change, Joint BASIN and SIBAE stable isotope meeting, Tomar, Portugal*
- 2005 • Saving private Dongmann – non-steady-state leaf water enrichment, *Lawrence Berkeley National Laboratory, Berkeley, California*
- Enrichment of leaf & leaf-transpired water – beyond Craig & Gordon, *Workshop of Isotopes in Project for Intercomparison of Land-surface Parameterization Schemes (IPILPS), Sydney, Australia*
 - The use of δ¹⁸O in atmospheric CO₂, *Workshop of Isotopes in Project for Intercomparison of Land-surface Parameterization Schemes (IPILPS), Sydney, Australia*
- 2004 • State-of-the-art of global modelling of δ¹⁸O in atmospheric CO₂, *Workshop of Biosphere-Atmosphere Stable Isotope Network (BASIN): Oxygen isotopes as a tracer linking global O₂, CO₂, and H₂O cycles, Point Reyes, California*
- The use of δ¹⁸O-CO₂ from a global perspective, *ANSTO Environment, Australian Nuclear Science and*

Technology Organisation (ANSTO), Sydney, Australia

- 2003 • Global modelling of $\delta^{18}\text{O}$ in atmospheric CO_2 and the observed signal of $\delta^{18}\text{O}\text{-CO}_2$ over Eurasia, *Institute of Chemistry and Dynamics of the Geosphere – Phytosphere, Research Centre Jülich, Germany*
- 2002 • $\delta^{18}\text{O}$ in atmospheric CO_2 : Insights & Prospects, *Lecture at Network for Ecophysiology in Closing Terrestrial CARbon Budget (NetCarb) Second Summer School: Field-related techniques for the use of stable isotopes in the study of ecosystem functioning*, Oiras, Portugal

Conference presentations

- Haverd VE, Leuning R, Griffith D, van Gorsel E & **Cuntz M**, The turbulent Lagrangian time scale in forest canopies constrained by fluxes, concentrations and source distributions, *International Conference of Atmospheric Transport and Chemistry in Forest Ecosystems*, Castle of Thurnau, Germany, October 2009
- Cuntz M**, Reick CH, Maier-Reimer E, Heimann M, Scholze M & Naegler T, Carbon isotopes in an Earth System Model, *Proceedings of the 8th International Carbon Dioxide Conference*, Jena, Germany, September 2009
- Ciais P, Tagliabue A, **Cuntz M**, Bopp L, Hoffmann G, Scholze M, Prentice C, Paris JD & Lourdantou A, ^{13}C and ^{18}O observations open a new window to understand the ice age carbon cycle, *Proceedings of the 8th International Carbon Dioxide Conference*, Jena, Germany, September 2009
- Ogée J, Wingate L & **Cuntz M**, The influence of soil carbonic anhydrase on the partitioning of gross CO_2 fluxes using the oxygen isotopes of CO_2 and water, *Proceedings of the 8th International Carbon Dioxide Conference*, Jena, Germany, September 2009
- Göhler M & **Cuntz M**, Coupling the Community Land Model with a grid-based mesoscale hydrologic model, *4th CLM-Community Assembly*, Karlsruhe, Germany, September 2009
- Cuntz M**, Doktor D, Friesen J & Hildebrandt A, Measuring vertical water fluxes over multiple storages in a temperate deciduous forest in a comprehensive observatory, *International Workshop Transregio 32 on Patterns in Soil-Vegetation-Atmosphere Systems: Monitoring, Modelling and Data Assimilation*, Aachen, Germany, June 2009
- Cuntz M**, Reick CH, Maier-Reimer E, Heimann M, Scholze M & Naegler T, Carbon isotopes in an Earth System Model, *Geophysical Research Abstracts*, Vol. 11, EGU2009-4836-1, EGU General Assembly, Vienna, Austria, April 2009
- Cuntz M** & Gleixner G, Carbon isotope discrimination in leaves of C_3 plants, *Geophysical Research Abstracts*, Vol. 11, EGU2009-10454, EGU General Assembly, Vienna, Austria, April 2009
- Thum T, Aalto T, Laurila T, Aurela M, **Cuntz M**, Kattge J & Reick C, Modelling effect of frost on carbon dioxide gas exchange in northern boreal coniferous forest, *Geophysical Research Abstracts*, Vol. 11, EGU2009-8447, EGU General Assembly, Vienna, Austria, April 2009
- Wingate L, Ogée J, **Cuntz M**, Genty B, Reiter I, Seibt U, Peylin P, Yakir D, Miller JB, Burlett R, Maseyk K, Mencuccini M, Pendall EG, Shim JH, Barbour MM, Hunt J, Mortazavi B & Grace J, The influence of soil carbonic anhydrase on the partitioning of gross CO_2 fluxes using the oxygen isotopes of CO_2 and water, *Geophysical Research Abstracts*, Vol. 11, EGU2009-2424-1, EGU General Assembly, Vienna, Austria, April 2009
- Haverd VE & **Cuntz M**, Soil-Litter-Iso: a new isotopically-enabled model for one-dimensional heat and moisture transfer in soils, *CABLE developer meeting*, Melbourne, Australia, December 2008
- Cuntz M**, Reick C, Maier-Reimer E, Heimann M, Scholze M & Naegler T, Radiocarbon and stable carbon isotopes in an Earth System Model, *Joint European Stable Isotope User Meeting*, Presqu'île de Giens, France, September 2008
- Hartard B, Máguas C, Lakatos M & **Cuntz M**, Lichens as natural tracer for $\delta^{18}\text{O}$ of ambient vapour, *Joint European Stable Isotope User Meeting*, Presqu'île de Giens, France, September 2008
- Keitel C, **Cuntz M** & Farquhar GD, Leaf water enrichment in the non-steady state – an experiment with *Ricinus communis*, *Joint European Stable Isotope User Meeting*, Presqu'île de Giens, France, September 2008
- Hartard B, Máguas C, Lakatos M & **Cuntz M**, $\delta^{18}\text{O}$ fractionation of desiccating lichens indicates isotopic equilibrium with ambient vapour, *Isoscapes*, Santa Barbara, California, April 2008

- Keitel C, **Cuntz M** & Farquhar GD, Leaf water enrichment in the non-steady state – an experiment with *Ricinus communis*, *Stable isotopes as tools to explore CO₂ and water exchanges of plants, soils and ecosystems*, Sydney, Australia, April 2008
- Haverd VE, Griffith D, Leuning R, **Cuntz M** & Keitel C, Do stable isotope measurements constrain a canopy-scale model of carbon and water budgets?, *Stable isotopes as tools to explore CO₂ and water exchanges of plants, soils and ecosystems*, Sydney, Australia, April 2008
- Cuntz M**, Ogée J, Farquhar GD, Cernusak LA, Peylin P & Bariac T, Water isotopologues in leaves, *Proceedings of the 2007 AGU fall meeting*, San Francisco, California, December 2007
- Haverd V, Leuning R, Griffith DWT, van Gorsel E, **Cuntz M**, Livesley S & Fest Benedikt, Implications of in-canopy concentration profiles and source distributions for the Lagrangian time-scale, *Proceedings of the 2007 AGU fall meeting*, San Francisco, California, December 2007
- Cuntz M**, Ogée J, Farquhar GD, Cernusak LA, Peylin P & Bariac T, Water isotopologues in leaves, *Jahrestagung der Arbeitsgemeinschaft Stabile Isotope e.V., Bayreuth*, Germany, October 2007
- Farquhar GD, Paltridge GW & **Cuntz M**, Maximum entropy production, cloud feedback and global warming, *Maximum Entropy Production in the Earth System*, Jena, Germany, May 2007
- Haverd V, Griffith DWT, Leuning R, **Cuntz M**, Deutscher NM, Tadros CV & Twining JR, Can stable isotope measurements constrain a canopy-scale model of carbon and water budgets?, *Geophysical Research Abstracts*, Vol. 9, 05806, EGU General Assembly, Vienna, Austria, April 2007
- Haverd V, Leuning R, Griffith DWT & **Cuntz M**, Partitioning CO₂ and water fluxes at the canopy scale. Can gas-phase isotopic composition of CO₂ and H₂O help?, *OzFlux national meeting*, Melbourne, Australia, July 2006
- Cuntz M**, Riley WJ & Farquhar GD, Impact of night-time leaf respiration on the global composition of ¹⁸O in atmospheric CO₂, *Proceedings of the Seventh International Carbon Dioxide Conference*, Boulder, Colorado, September 2005
- Cuntz M**, Ciais P, Hoffmann G & Riley WJ, State-of-the-art of global modelling of δ¹⁸O in atmospheric CO₂, *BASIN Workshop*, Point Reyes, California, September 2004
- Ogée J, Peylin P & **Cuntz M**, The use of stable CO₂ isotopes to study the carbon budget at the ecosystem scale, *BASIN Workshop*, Point Reyes, California, September 2004
- Peylin P, **Cuntz M** & Ciais P, Using the stable isotopic composition of atmospheric CO₂ to partition assimilation from respiration on the global scale, *BASIN Workshop*, Point Reyes, California, September 2004
- Hoffmann G & **Cuntz M**, Modelling the Dole Effect, *BASIN Workshop*, Point Reyes, California, September 2004
- Cuntz M**, Farquhar GD & Ciais P, Review the use of ¹⁸O in atmospheric CO₂ to separate photosynthesis from respiration, *The 4th International Conference on Applications of Stable Isotope Techniques to Ecological Studies*, Wellington, New Zealand, April 2004
- Ciais P, Peylin P, **Cuntz M**, Miller JB, White JWC, Francey RJ & Rayner P, Changes in gross and net CO₂ fluxes over the last two decades deduced from CO₂, ¹³C, and ¹⁸O atmospheric measurements, *Proceedings of the 2003 AGU fall meeting*, San Francisco, California, December 2003
- Ogée J, Bariac T, Peylin P, **Cuntz M** & Ciais P, A non steady-state analytical leaf water isotopic enrichment model for use in a naturally varying environment, *Proceedings of the 2003 AGU fall meeting*, San Francisco, California, December 2003
- Ciais P, Ogée J, Peylin P, **Cuntz M**, Bariac T & Brunet Y, Separability of photosynthesis and respiration from eddy covariance and isotopic data, *SIBAE Workshop*, Orvieto, Italy, October 2003
- Hoffmann G, Werner M, **Cuntz M** & Jouzel J, A global balance for the stable water isotopes: A comparison between observations and general circulation models, *International Symposium on Isotope Hydrology and Integrated Water Resources Management*, Vienna, Austria, May 2003
- Cuntz M**, Peylin P, Ciais P, Hoffmann G, Francey RJ, Allison CE, White JWC, Tans PP & Miller JB, Inter-annual variations of δ¹⁸O and δ¹³C in atmospheric CO₂: Data analysis, *Geophysical Research Abstracts*, EGS-AGU-EUG Joint Assembly, Nice, France, April 2003
- Cuntz M**, Ciais P & Hoffmann G, Modelling the continental effect of oxygen isotopes over Europe and Siberia, *Geophysical Research Abstracts*, EGS XXVII General Assembly, Nice, France, April 2002
- Hoffmann G & **Cuntz M**, Closing the δ¹⁸O budget in CO₂ and O₂ together, *Snowbird Symposium on the history of atmospheric CO₂ and the impacts on plants, animals, and ecosystems*, Snowbird, Utah, December 2001

- Cuntz M**, Ciais P & Hoffmann G, Global modelling of $\delta^{18}\text{O}$ in atmospheric CO_2 , *Proceedings of the Sixth International Carbon Dioxide Conference*, Sendai, Japan, October 2001
- Cuntz M**, Hoffmann G, Knorr W, Ciais P & Levin I, An interactive photosynthesis model within ECHAM – towards $\delta^{18}\text{O}$ in atmospheric CO_2 : First results, *Fourth International conference on modelling global Climate Change and variability*, Hamburg, Germany, September 1999

Leipzig, 13 February 2010