Alexandre CAUQUOIN

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Profile

Currently at the AORI (University of Tokyo)

Water isotopes ($\delta^{18}O$, δD, ^{17}O-excess and tritium)

Paleoclimate isotopic modeling with GCMs

^{10}Be in ice core

Work experience

April 2022 - : Project Assistant Professor at the Institute of Industrial Science (IIS), The University of Tokyo; Kashiwa, Japan.
Subject: Development of water isotope incorporated Earth System Model MIROC and first Euro-Japan intercomparison.
Supervisor: Kei Yoshimura (IIS).

Tasks: implementation of the water isotopes in coupled MIROC ESM, reconstruction of past millenium climate variations, modeling of tritium in the water cycle, set up of an inter-comparison project of isotope-enabled models, collaborations with research teams producing isotope observations, students supervision.

September 2021 - March 2022: Post-doctoral position at the Atmosphere and Ocean Research Institute (AORI), The University of Tokyo; Kashiwa, Japan.
Subject: Investigation of the climate variability during the LGM and the last deglaciation using isotope-enabled GCMs.
Supervisor: Ayako Abe-Ouchi (AORI).

Tasks: isotope-enabled simulations with ECHAM6-wiso with boundary fields from MIROC 4m simulations, simulations with isotope-enabled OGCM.

September 2019 - August 2021: FY2019-2020 JSPS Postdoctoral Fellowship for Research in Japan Award (Standard); Institute of Industrial Science (IIS), The University of Tokyo; Kashiwa, Japan.
Subject: Development of water isotope incorporated Earth System Model MIROC and first Euro-Japan intercomparison.
Supervisor: Kei Yoshimura (IIS). Financed by "Grant-in-Aid" for Scientific Research -KAKENHI-.

Tasks: team management to implement the water isotopes in a coupled GCM, set up of an inter-comparison project of isotope-enabled models, students supervision.

October 2015 - August 2019: Post-doctoral position at the Alfred Wegener Institute Centre for Polar and Marine Research (AWI); Bremerhaven, Germany
Subject: Implementation of water stable isotopes in the different modules (atmosphere, ocean, vegetation) of the MPI-ESM model (Max Plank Institute for Meteorology) in the framework of the PalMod initiative ("Paleo Modelling: A national paleo climate modelling initiative").
Supervisor: Martin Werner (AWI). Financed by the BMBF (Federal Ministry of Education and Research, Germany).

Tasks: water isotopes modeling in a fully-coupled GCM (Fortran), paleoclimate simulations, post-treatment and model-date comparisons (cdo, nco, netcdf library, python…), centralisation an updates of the model versions (Git, SVN).

November 2013 - October 2015: Post-doctoral position at the Laboratoire de Météorologie Dynamique (LMD, Jussieu); Paris-Jussieu, France
Subject: Implementation of tritium in the General Circulation Model LMDZ-iso to inferring the links between the stratospheric air inputs into the lower troposphere, the hydrological cycle and the climate.

Supervisors: Camille Risi (LMD), Amaelle Landais (LSCE). Financed by the ERC COMBINISO.

Tasks: water isotopes modeling in a GCM (Fortran), post-treatment (nco, netcdf library, python…) and model-date comparisons (IAEA database, Antarctic traverses…), dynamics of tritium in the hydrological cycle, troposphere-stratosphere exchanges over Antarctica.

October 2010 - October 2013: PhD at the Laboratoire des Sciences du Climat et de l'Environnement (LSCE); Gif-sur-Yvette, France
Thesis subject: Beryllium-10 flux in Antarctica during the last 800 000 years and interpretation.
PhD advisors: Jean Jouzel and Grant Raisbeck. Defended the 07 October 2013.

Tasks: chemical extraction of beryllium-10 in ice cores, accelerator mass spectrometry (AMS, CEREGE), statistical analysis of data to extract information on solar activity cycles (Matlab, wavelet) and use of the synchronization tool Match Protocol, study of the climate variability in the past 800 000 years using isotopic and magnetic records in ice cores and marine sediments.

April 2010 - July 2010: Internship at the Laboratoire des Sciences du Climat et de l'Environnement (LSCE); Gif-sur-Yvette, France
Subject: Determination of isotopic fractionation coefficient of water stable isotopes at very low temperatures. Supervisors: Jean Jouzel et Amaelle Landais.

Tasks: laser spectroscopy, mass spectrometry IRMS, study of stable water isotopes at very low temperature (isotopic fractionation).

April 2009 - July 2009: Internship at the Università di Trieste - Dipartimento di Scienze Geologiche, Ambientali e Marine (DiSGAM); Trieste, Italy
Subject: Study of climatic variations in Antarctica during the last glacial period using the stable isotopes of oxygen in the Talos Dome ice core. Supervisor: Barbara Stenni.

Tasks: preparation of ice samples and measurements of their oxygen-18 content by mass spectrometry (CO_2-water equilibration method), temperature reconstruction and analysis of fast climate variations.

June 2008 - July 2008: Internship at the Laboratoire des Sciences du Climat et de l'Environnement (LSCE); Gif-sur-Yvette, France
Subject: Determination of residence time of groundwater from the Kerrien sub-basin using the Tritium-Helium-3 method. Supervisors: Philippe Jean-Baptiste et Élise Fourré.

Extraction of tritium from water samples, measurement of tritium by mass spectrometry with the Tritium/Helium-3 method.

Education

October 2013: PhD degree in Earth Science at the Laboratoire des Sciences du Climat et de l'Environnement (LSCE); Gif-sur-Yvette, France - University Paris Sud XI

2008 - 2010: Master degree Physics and Environment - University Paris Sud XI

2005 - 2008: Bachelor's degree in Fundamental Physics - University Paris-Sud XI

Scientific and technical skills

Scientific :
Water isotopes (^{18}O, ^{17}O, D, T)
Beryllium-10 in the ice
Paleoclimate: PMIP, ice core, Past2k.

Languages:
French, English (working knowledge), Japanese (basic).

Technical:
High-performance computing environments
Implementation and modeling of water isotopes in GCMs (General Circulation Models)
Post-treatment and analyses of models outputs (nco, cdo, netcdf, ngtool, python)
Distributed version-control tools (git, SVN, GitLab)
Others softwares: Office, LateX, Igor Pro, Matlab

Miscellaneous

Sports and hobbies:
Running, Football, Squash, Swimming, Travel, Ski.

Leisure activities:
Cinema, Music (Rock), Reading.

Funded Projects (as PI or co-PI only)

September 2022 - March 2025: Grant-in-Aid for Research Activity Start-up (KAKENHI): 22K20379.

August 2019 - August 2021: Grant-in-Aid for JSPS (Japan Society for the Promotion of Science) International Research Fellows: JP 19F19024.

Financial Supports

July 2024: Financial support for the *International Symposium on Isotope Hydrology* at IAEA, Vienna.

August 2019 - August 2021: JSPS Postdoctoral Fellowship for Foreign Researchers (ID P19024).

March 2017: Conference grant from AFEQ-CNF-INQUA (Association Française pour l'Étude du Quaternaire) for the DPG Spring Meeting 2017 in Bremen, Germany.

Communications

Publications - under review:

- Hao, S., Zhang, X., Duan, Y., Gowan, E. J., Zhu, J., **Cauquoin, A.**, Chen, J., Werner, M., and Chen, F.: Model seasonal and proxy spatial biases revealed by assimilated mid-Holocene seasonal temperatures, *Nat. Commun.*, in review.
- Ollivier, I., Steen-Larsen, H. C., Stenni, B., Arnaud, L., Casado, M., **Cauquoin, A.**, Dreossi, G., Genthon, C., Minster, B., Picard, G., Werner, M., and Landais, A.: Surface processes and drivers of the snow water stable isotopic composition at Dome C, East Antarctica – a multi-datasets and modelling analysis, *EGUsphere*, doi:10.5194/egusphere-2024-685, in review for *The Cryosphere*.
- Zhang, J., Yu, W., Thompson, L., Lewis, S., **Cauquoin, A.**, Werner, M., Jing, Z., Ma, Y., Xu, B., Wu, G., Guo, R., Ren, P., Zhang, Z., Wang, Q, and Qu, D.: Shifting influences of Indian Ocean Dipole and western Pacific subtropical high on annual precipitation $\delta^{18}O$ in southern East Asia, *Earth Planet. Sci. Lett.*, in review.
- Dreossi, G., Masiol, M., Stenni, B., Zannoni, D., Scarchilli, C., Ciardini, V., Casado, M., Landais, A., Werner, M., **Cauquoin, A.**, Casasanta, G., Del Guasta, M., Posocco, V., and Barbante, C.: A decade (2008–2017) of water stable-isotope composition of precipitation at Concordia Station, East Antarctica, *EGUsphere*, doi:10.5194/egusphere-2023-2813, in review for *The Cryosphere*.

- Wang, J., Xu, B., Li, Z., Nasir, J., Farhan, S., Wang, M., Xie, Y., Yang, S., **Cauquoin, A.**, and Hussain, A.: The interpretation of Karakoram anomaly by High Karakoram ice core record, *J. Geophys. Res. Atmos.*, in review.

Publications - accepted or published:

29. Kino, K., **Cauquoin, A.**, Okazaki, A., Oki, T. and Yoshimura, K.: Synoptic moisture intrusion provided heavy isotope precipitations in inland Antarctica during the Last Glacial Maximum, *Geophys. Res. Lett.*, **51**, e2024GL108191, doi:10.1029/2024GL108191, 2024.

28. Landais, A., Agosta, C., Vimeux, F., Magand, O., Solis, C., **Cauquoin, A.**, Dutrievoz, N., Risi, C., Leroy-Dos Santos, C., Fourré, E., Cattani, O., Jossoud, O., Minster, B., Prié, F., Casado, M., Dommergue, A., Bertrand, Y., and Werner, M.: Abrupt excursions in water vapor isotopic variability at the Pointe Benedicte observatory on Amsterdam Island, *Atmos. Chem. Phys.*, **24**, 4611–4634, doi:10.5194/acp-24-4611-2024, 2024.

27. **Cauquoin, A.**, Fourré, É., Landais, A., Okazaki, A., and Yoshimura, K.: Modeling natural tritium in precipitation and its dependence on decadal variations of solar activity using the atmospheric general circulation model MIROC5-iso, *J. Geophys. Res. Atmos.*, **129**, e2023JD039745, doi:10.1029/2023JD039745, 2024.

26. Vimeux, F., Risi, C., Barthe, C., Sören, F., **Cauquoin, A.**, Jossoud, O., Metzger, J.-M., Cattani, O., Minster, B., and Werner, M.: Is the isotopic composition of precipitation a robust indicator for reconstructions of past tropical cyclones frequency? A case study on Réunion Island from rain and water vapor isotopic observations, *J. Geophys. Res. Atmos.*, **129**, e2023JD039794, doi:10.1029/2023JD039794, 2024.

25. Bong, H., **Cauquoin, A.**, Okazaki, A., Chang, E.-C., Werner, M., Wei, Z., Yeo, N. and Yoshimura, K.: Process-Based Intercomparison of Water Isotope-Enabled Models and Reanalysis Nudging Effects, *J. Geophys. Res. Atmos.*, **129**, e2023JD038719, doi:10.1029/2023JD038719, 2024.

24. Leroy-Dos Santos, C., Fourré, E., Agosta, C., Casado, M., **Cauquoin, A.**, Werner, M., Minster, B., Prié, F., Jossoud, O., Petit, L. and Landais, A.: From atmospheric water isotopes measurement to firn core interpretation in Adelie Land: A case study for isotope-enabled atmospheric models in Antarctica, *The Cryosphere*, 17, 5241–5254, doi:10.5194/tc-17-5241-2023, 2023.

23. Li, Y., Kino, K., **Cauquoin, A.** and Oki, T.: Contribution of lakes in sustaining the Sahara greening during the Mid-Holocene, *Clim. Past*, **19**, 1891–1904, doi:10.5194/cp-19-1891-2023, 2023.

22. Shi, X., **Cauquoin, A.**, Lohmann, G., Jonkers, L., Wang, Q., Yang, H., Sun, Y., and Werner, M.: Simulated stable water isotopes during the mid-Holocene and pre-industrial using AWI-ESM-2.1-wiso, *Geosci. Model Dev.*, **16**, 5153–5178, doi:10.5194/gmd-16-5153-2023, 2023.

21. Li, Y., Liu, X., Xie, X., **Cauquoin, A.** and Werner, M.: Interannual modulation of the East and South Asian summer precipitation $\delta^{18}O$ by the Indian and western North Pacific summer monsoon strength, *Glob. Planet. Change*, **227**, 104187, doi:10.1016/j.gloplacha.2023.104187, 2023.

20. **Cauquoin, A.**, Abe-Ouchi, A., Obase, T., Chan, W.-L., Paul, A. and Werner, M.: Effects of Last Glacial Maximum (LGM) sea surface temperature and sea ice extent on the isotope-temperature slope at polar ice core sites, *Clim. Past*, **19**, 1275-1294, doi:10.5194/cp-19-1275-2023, 2023.

19. Zhang, J., Yu, W., Lewis, S., Thompson, L., Bowen, G. J., Yoshimura, K., **Cauquoin, A.**, Werner, M., Chakraborty, S., Jing, Z., Ma, Y., Guo, X., Xu, B., Wu, G., Guo, R. and Qu, D.: Controls on stable oxygen isotopes in monsoonal precipitation across the Bay of Bengal: atmosphere and surface analysis, *Geophys. Res. Lett.*, **50**, e2022GL102229, doi:10.1029/2022GL102229, 2023.

18. Krätschmer, S., **Cauquoin, A.**, Lohmann, G. and Werner, M.: A Modeling Perspective on the Lingering Glacial Sea Surface Temperature Conundrum, *Geophys. Res. Lett.*, **49**, e2022GL100378, doi:10.1029/2022GL100378, 2022.

17. Landais, A., Stenni, B., Masson-Delmotte, V., Jouzel, **Cauquoin, A.**, J., Fourré, É., Minster, B., Selmo, E., Extier, T., Werner, M., Vimeux, F., Uemura, R., Crotti, I. and Grisart, A.: Interglacial Antarctic–Southern Ocean climate decoupling due to moisture source area shifts, *Nat. Geosci.,* **14**, 918-923, doi:10.1038/s41561-021-00856-4, 2021.

16. Kino, K., Okazaki, A., **Cauquoin, A.** and Yoshimura, K.: Contribution of the Southern Annular Mode to variations in water isotopes of daily precipitation at Dome Fuji, East Antarctica, *J. Geophys. Res. Atmos.*, **126**(23), e2021JD035397, doi:10.1029/2021JD035397, 2021.

15. **Cauquoin, A.** and Werner, M.: High-resolution nudged isotope modelling with ECHAM6-wiso: Impacts of updated model physics and ERA5 reanalysis data, *J. Adv. Model. Earth Syst.*, **13**(11), e2021MS002532, doi:10.1029/2021MS002532, 2021.

14. Breil, M., Christner, E., **Cauquoin, A.**, Werner, M. and Schädler, G.: Applying an isotope-enabled regional climate model over the Greenland ice sheet: effect of spatial resolution on model bias, *Clim. Past*, **17**, 1685-1699, doi:10.5194/cp-17-1685-2021, 2021.

13. Daux, V., Minster, B., **Cauquoin, A.**, Jossoud, O., Werner, M. and Landais, A.: Oxygen and hydrogen isotopic composition of tap waters in France, *The Geological Society, London, Special Publications*, **507**, 47-61, doi:10.1144/SP507-2020-207, 2021.

12. **Cauquoin, A.**, Werner, M. and Lohmann, G.: Water isotopes – climate relationships for the mid-Holocene and preindustrial period with an isotope-enabled version of MPI-ESM, *Clim. Past*, **15**, 1913-1937, doi:10.5194/cp-15-1913-2019, 2019.

11. **Cauquoin, A.**, Risi, C. and Vignon, É.: Importance of the advection scheme for the simulation of water isotopes over Antarctica by atmospheric general circulation models: a case study for present-day and Last Glacial Maximum with LMDZ-iso. *Earth Planet. Sci. Lett.*, **524**, doi:10.1016/j.epsl.2019.115731, 2019.

10. Christner, E., Aemisegger, F., Pfahl, S., Werner, M., **Cauquoin, A.**, Schneider, M., Hase, F., Barthlott, S. and Schädler, G.: The climatological footprints of continental surface evaporation, rainout, and sub-cloud processes in δD of water vapor and precipitation in Europe. *J. Geophys. Res. Atmos.*, **123**, 4390-4409, doi:10.1002/2017JD027260, 2018.

9. Fourré, É., Landais, A., **Cauquoin, A.**, Jean-Baptiste, P., Lipenkov, V. and Petit, J.-R.: Tritium records to trace stratospheric moisture inputs in Antarctica. *J. Geophys. Res. Atmos.*, **123**, 3009-3018, doi:10.1002/2018JD028304, 2018.

8. Raisbeck, G. M., **Cauquoin, A.**, Jouzel, J., Landais, A., Petit, J.-R., Lipenkov, V. Y., Beer, J., Synal, H.-A., Oerter, H., Johnsen, S. J., Steffensen, J. P., Svensson, A. and Yiou, F.: An improved north-south synchronization of ice core records around the 41 kyr ^{10}Be peak. *Clim. Past*, **13**, 217-229, doi:10.5194/cp-13-217-2017, 2017.

7. **Cauquoin, A.**, Jean-Baptiste, P., Risi, C., Fourré, É. and Landais, A.: Modeling the global bomb-tritium transient signal with the AGCM LMDZ-iso: a method to evaluate aspects of the hydrological cycle. *J. Geophys. Res. Atmos.*, **121**, 12,612-12,629, doi:10.1002/2016JD025484, 2016.

6. Casado, M., **Cauquoin, A.**, Landais, A., Orsi, A., Israel, D., Pangui, E., Landsberg, D., Kerstel, E. and Doussin, J.-F.: Experimental determination and theoretical framework of kinetic fractionation at the water vapour - ice interface at low temperature. *Geochim. Cosmochim. Ac.*, **174**, 54-69. doi:10.1016/j.gca.2015.11.009, 2016.

5. **Cauquoin, A.**, Jean-Baptiste, P., Risi, C., Fourré, E., Stenni, B. and Landais, A.: The global distribution of natural tritium in precipitation simulated with an Atmospheric General Circulation Model and comparison with observations. *Earth Planet. Sci. Lett.*, **427**, 160-170. doi:10.1016/j.epsl.2015.06.043, 2015.

4. **Cauquoin, A.**, Landais, A., Raisbeck, G. M., Jouzel, J., Bazin, L., Kageyama, M., Peterschmitt, J.-Y., Werner, M., Bard, E. and ASTER Team: Comparing past accumulation rate reconstructions in East Antarctic ice cores using ^{10}Be, water isotopes and CMIP5-PMIP3 models. *Clim. Past*, **11**, 355-367, doi:10.5194/cp-11-355-2015, 2015.

3. **Cauquoin, A.**, Raisbeck, G. M., Jouzel, J., Bard, E. and ASTER Team: No evidence for planetary influence on solar activity 330 000 years ago. *Astron. Astrophys.*, **561**, A132, doi:10.1051/0004-6361/201322879, 2014.

2. **Cauquoin, A.**, Raisbeck, G., Jouzel, J. and Paillard, D.: Use of ^{10}Be to predict atmospheric ^{14}C variations during the Laschamp excursion: high sensitivity to cosmogenic isotope production calculations. *Radiocarbon*, **56**(1), 67-82, doi:10.2458/56.16478, 2014.

1. Capron, E., Landais, A., Buiron, D., **Cauquoin, A.**, Chappellaz, J., Debret, M., Jouzel, J., Leuenberger, M., Martinerie, P., Masson-Delmotte, V., Mulvaney, R., Parrenin, F. and Prié, F.: Glacial–interglacial dynamics of Antarctic firn columns: comparison between simulations and ice core air-δ^{15}N measurements, *Clim. Past*, **9**, 983-999, doi:10.5194/cp-9-983-2013, 2013.

Seminars - invited talks:

Cauquoin, A. Contributions of stable water isotopes to the understanding of the water cycle in the Tibetan Plateau region within a model-data approach, *International Symposium on Third Pole Environment 2023*, Chongqing (China), November 14th-17th 2023.

Cauquoin, A., Fourré, É., Landais, A., Bong, H., Okazaki, A. and Yoshimura, K. Implementation of tritium in the atmospheric General Circulation Model MIROC5-iso to investigate the dynamics of the hydrological cycle, *keynote at the International Symposium on Isotope Hydrology at IAEA*, Vienna (Austria), July 3rd 2023.

Cauquoin, A. Study of past Earth's climate variations using fully coupled General Circulation Models enabled with water isotopes, *IsoNet Seminar*, online, September 08th 2022.

Cauquoin, A. Isotope-enhanced Earth System Models: framework and some examples with MPI-ESM-wiso, *invited talk at the Institute of Tibetan Plateau, Chinese Academy of Science*, Beijing (China), October 21st 2019.

Seminars - 1st author:

Cauquoin, A., Gusyev, M., Komuro, Y., Bong, H., Okazaki, A., and Yoshimura, K. Simulation of tritium releases into the atmosphere during the Fukushima accident and into the ocean due to planned discharge of treated water, oral, *EGU 2024,* Vienna (Austria), April 2024.

Cauquoin, A., Gusyev, M., Komuro, Y., Bong, H., Okazaki, A., and Yoshimura, K. Simulation of tritium releases into the atmosphere during the Fukushima accident and into the ocean due to planned discharge of treated water, poster, *10th Annual Symposium of the Institute of Environmental Radioactivity,* Fukushima (Japan), February 2024.

Cauquoin, A., Abe-Ouchi, A., Obase, T., Chan, W.-L., Paul, A. and Werner, M. Effects of LGM sea surface temperature and sea ice extent on the isotope-temperature slope at polar ice core sites, oral, *JpGU 2023,* Chiba (Japan), May 2023.

Cauquoin, A., Abe-Ouchi, A., Obase, T., Chan, W.-L., Paul, A. and Werner, M. Effects of LGM sea surface temperature and sea ice extent on the isotope-temperature slope at polar ice core sites, oral, *EGU23,* Vienna (Austria), April 2023.

Cauquoin, A., Abe-Ouchi, A., Obase, T., Chan, W.-L. and Werner, M. Effects of LGM sea surface temperature and sea ice extent on the isotope-temperature slope at polar ice core sites, poster, *JpGU 2022*, Chiba (Japan), June 2022.

Cauquoin, A., Werner, M., Shoji, S., Okazaki, A., Yoshimura, K., Lohmann, G. and Jungclaus, J. Transient simulation of the past 2000 years with the isotope-enabled coupled model MPI-ESM-wiso, oral, *JpGU 2022*, Chiba (Japan), May 2022.

Cauquoin, A., Werner, M., Shoji, S., Okazaki, A., Yoshimura, K., Lohmann, G. and Jungclaus, J. Transient simulation of the past 2000 years with the isotope-enabled coupled model MPI-ESM-wiso, oral, *"Water Isotope: From Weather to Climate" workshop*, Kashiwa (Japan local hub), November 2021.

Cauquoin, A., Werner, M. and Lohmann, G. Water stable isotopes changes in PMIP-type paleoclimate simulations from the fully coupled model MPI-ESM-wiso, poster, *PMIP 2020*, Nanjing (China), October 2020.

Cauquoin, A. and Werner, M. High-resolution isotopic simulations from ECHAM6-wiso nudged with ERA5 reanalyses: new products for isotopic model-data comparisons, online, *EGU 2020*, Vienna (Austria), May 2020.

Cauquoin, A., Werner, M. and Lohmann, G. Introduction to isotope-enabled Earth System Models: examples with MPI-ESM-wiso, oral, *15th International RSM workshop*, Chiba (Japan), November 2019.

Cauquoin, A., Werner, M. and Lohmann, G. Water isotopes – climate relationships for the mid-Holocene and pre-industrial period simulated with MPI-ESM-wiso, oral, *SISAL 4th workshop*, Xi'an (China), October 2019.

Cauquoin, A., Werner, M. and Lohmann, G. Water stable isotopes – climate relationships during/between the pre-industrial and mid-Holocene periods using the fully coupled model MPI-ESM-wiso, PICO, *EGU 2019*, Vienna (Austria), April 2019.

Cauquoin, A., Werner, M. and Lohmann, G. Modeling of water stable isotopes in the fully coupled Earth system model MPI-ESM: current status and perspectives, poster, *EGU 2018*, Vienna (Austria), April 2018.

Cauquoin, A., Werner, M. and Lohmann, G. Modeling of water stable isotopes in the fully coupled Earth system model MPI-ESM: current status and perspectives, poster, *PalMod International Open Science Conference*, Vienna (Austria), April 2018.

Cauquoin, A., Werner, M. and Lohmann, G. Modeling of water stable isotopes in the ECHAM6 atmospheric general circulation model: current status and perspectives, poster, *EGU 2017*, Vienna (Austria), April 2017.

Cauquoin, A., Jean-Baptiste, P., Risi, C., Fourré, É. and Landais, A. Modeling the global bomb tritium transient signal with the AGCM LMDZ-iso: a method to evaluate aspects of the hydrological cycles, oral, *DPG Bremen17*, Bremen (Germany), March 2017.

Cauquoin, A., Jean-Baptiste, P., Risi C., Fourré, É., Stenni, B. and Landais, A. Implementation of tritium (HTO) in LMDZ-iso: tracing the water cycle and its link with stratospheric air intrusions, oral, *INQUA 2015*, Nagoya (Japan), July 2015.

Cauquoin, A., Landais, A., Raisbeck, G. M., Jouzel, J., Bazin, L., Kageyama, M., Peterschmitt, J.-Y., Werner, M., Bard, E. and ASTER Team. Comparing past accumulation rate reconstructions in East Antarctic ice cores using ^{10}Be, water isotopes and CMIP5-PMIP3 models, oral, *INQUA 2015*, Nagoya (Japan), July 2015.

Cauquoin, A., Jean-Baptiste, P., Risi C., Fourré, É., Stenni, B. and Landais, A. Implementation of tritium in the LMDZ-iso General Circulation Model for the study of the relationships between stratospheric air inputs into the lower troposphere, water cycle and climate, poster, *International Symposium on Isotope Hydrology: Revisiting Foundations ans Exploring Frontiers (IAEA)*, Vienna (Austria), May 2015.

Cauquoin, A., Jean-Baptiste, P., Risi C., Fourré, É., Landais, A. and Stenni, B. Implementation of Tritium in the LMDZ-iso General Circulation Model: First Promising Results for the Study of the Relationships Between Stratospheric Air Inputs into the Lower Troposphere in Polar Regions, Water Cycle and Climate, poster, *AGU 2014*, San Francisco (USA), December 2014.

A. Cauquoin, A. Landais, C. Risi, É. Fourré, P. Jean-Baptiste, O. Magand, S. Guilbaud, A. Ekaykin, F. Prié, B. Minster and R. Winkler. Reconstruire les variations du climat, du cycle de l'eau et l'apport stratosphérique au cours des 50 dernières années sur le plateau Est Antarctique, poster, *Colloque Q9 AFEQ*, Lyon, March 2014.

Cauquoin, A., Raisbeck, G. M., Jouzel, J., Landais, A., Bard, E. and ASTER Team. Flux de béryllium-10 en Antarctique entre 200 et 800 kyr BP et sa synchronisation avec le signal paléomagnétisme dans les sédiments marins, oral, *SFIS JJC6*, Dunkerque, October 2013.

Cauquoin, A., Raisbeck, G.M., Jouzel, J., Bard E. and ASTER Team. Extended record of ^{10}Be at EPICA Dome C during the last 800 000 years and it synchronization with geomagnetic paleointensity variations from marine sediments, oral, *EGU 2013*, Vienna (Austria), April 2013.

Cauquoin, A., Raisbeck, G.M., Jouzel, J., Bard, E. and ASTER Team. Study of a highly resolved record of ^{10}Be from EPICA Dome C during MIS 9 as a proxy of solar variations, poster, *IPICS 2012*, Giens, October 2012.

Cauquoin, A., Raisbeck, G.M., Jouzel, J., Paillard, D. Effects of Laschamp geomagnetic excursion on ^{14}C production, poster, *Radiocarbon 2012*, Paris, July 2012.

Cauquoin, A., Raisbeck, G.M., Jouzel, J. Effects of Laschamp Excursion on Cosmogenic Isotope Production, poster, *Goldschmidt 2011*, Prague (Czech Republic), August 2011.

Seminars (co-author):

Sivankutty, R., Sime, L., **Cauquoin, A.**, Werner, M., N.LeGrande, A., Goursaud, S., and Malmierca Vallet, I.: The water isotope signature for the Last interglacial in three water isotope enabled climate models., *EGU 2024*, Vienna (Austria), April 2024.

Ollivier, I., Steen-Larsen, H. C., Stenni, B., Dreossi, G., Casado, M., Picard, G., Arnaud, L., **Cauquoin, A.**, Werner, M., and Landais, A.: Surface processes and drivers of the snow water stable isotopic composition at Dome C, East Antarctica – a multi-datasets and modelling analysis, *EGU 2024*, Vienna (Austria), April 2024.

Gusyev, M., **Cauquoin, A.**, Igarashi, Y., Takata, H., Hirao, S., and Akata, N.: Anthropogenic and natural tritium radioisotope in terrestrial water cycle of Fukushima, Japan, *EGU 2024*, Vienna (Austria), April 2024.

Agosta, C., Leroy-Dos Santos, C., Fourré, E., Casado, M., **Cauquoin, A.**, Werner, M., and Landais, A.: Extreme precipitation events in firn core isotopic records: where to find the best drilling site?, *EGU 2024*, Vienna (Austria), April 2024.

Leroy-Dos Santos, C., Fourré, E., Agosta, C., Casado, M., **Cauquoin, A.**, Werner, M., Alexander, S., Lewis, M., Favier, V., Vance, T., Harvie, D., Cattani, O., Minster, B., Prié, F., Jossoud, O., Petit, L., and Landais, A.: From atmospheric water isotopes measurement to firn core interpretation in coastal sites: A method for isotope-enabled atmospheric models in East Antarctica, *EGU 2024*, Vienna (Austria), April 2024.

Fourré, E., Orsi, A., Tcheng, T., Brückner, L., Jacob, R., Lassalle Bernard, C., Baubant, L., Jossoud, O., Prié, F., Minster, B., Agosta, C., Leroy-Dos Santos, C., Casado, M., Favier, V., Magand, O., Lemeur, E., Teste, G., **Cauquoin, A.**, Werner, M., and Landais, A. and the ASUMA raid team: Impact of accumulation rate on firn core water isotopic records from a same region of Adelie Land with high katabatic winds, *EGU 2024*, Vienna (Austria), April 2024.

Li, Y., **Cauquoin, A.**, Okazaki, A., and Yoshimura, K.: Development of the Isotope-enabled Fully Coupled Model MIROC6-iso, *EGU 2024*, Vienna (Austria), April 2024.

Tcheng, T., Fourré, E., Baubant, L., Lassalle-Bernard, C., Jacob, R., Parrenin, F., Jossoud, O., Prié, F., Minster, B., Agosta, C., Leroy-Dos-Santos, C., Casado, M., Bouchet, M., Favier, V., Magand, O., Lemeur, E., Picard, G., **Cauquoin, A.**, Werner, M., and Landais, A. and the ASUMA RAID team: Multiproxy analyses for a network of firn cores covering the last 40 years from coastal Adélie Land , *EGU 2024*, Vienna (Austria), April 2024.

Gusyev, M., **Cauquoin, A.**, Igarashi, Y., Takata, H., Hirao, S., Akata, N., and Shibasaki, N.: Anthropogenic and natural tritium radionuclide for numerical modeling of terrestrial water transit times, *10th Annual Symposium of the Institute of Environmental Radioactivity,* Fukushima (Japan), February 2024.

Gusyev, M., **Cauquoin, A.**, Igarashi, Y., Takata, H., Hirao, S., and Akata, N.: Evaluating terrestrial water cycle using numerical modeling with tritium radioisotope in Fukushima, Japan, *10th Annual Symposium of the Institute of Environmental Radioactivity,* Fukushima (Japan), February 2024.

Okazaki, A., Li, Y., Kino, K., **Cauquoin, A.**, and Yoshimura, K., Evaluation of a newly developed isotope-enabled AGCM MIROC6-iso under the present climate, *AGU 2023*, San Francisco (USA), December 2023.

Falster, G., Hughes, C. E., Treble, P. C., **Cauquoin, A.**, Werner, M., Proemse, B. C., Crawford, J., and Proemse, B., Understanding the nature and drivers of spatial and temporal variability in the isotopic composition of precipitation across Australia, *AGU 2023*, San Francisco (USA), December 2023.

Cheng, J., **Cauquoin, A.**, Bong, H., Yang, Y., and Yoshimura, K., Unravelling the contrasting impacts of ENSO on stable water isotopes in precipitation over the northern and southern Tibetan Plateau, *AGU 2023*, San Francisco (USA), December 2023.

Li, Y., Kino, K., **Cauquoin, A.**, and Oki, T. Contribution of Lakes in Sustaining Greening of the Sahara during the Mid-Holocene, *AGU 2023*, San Francisco (USA), December 2023.

Cheng, J., **Cauquoin, A.**, Yoshimura, K., and Werner, M. How do stable water isotopes in the Tibetan Plateau respond to temperature and precipitation climate extremes in the last 2000 years?, *International Symposium on Third Pole Environment 2023*, Chongqing (China), November 2023.

Dutrievoz, N., Agosta, C., Nguyen, N., Risi, C., Vignon, É., Landais, A., Leroy-Dos Santos, C., Fourré, É., **Cauquoin, A.**, Werner, M., Gorodetskaya, I., Chyhareva, A., Krakovska, S., Minster, B., and Prié, F. An observational benchmark for water isotope-enabled atmospheric general circulation models in Antarctica, IUGG, Berlin (Germany), July 2023.

Leroy-Dos Santos, C., Fourré, É., Agosta, C., **Cauquoin, A.**, Casado, M., Werner, M., and Landais, A. From atmospheric water isotopes measurement to firn core interpretation in Adelie Land: case study for isotope-enabled atmospheric models in Antarctica, IUGG, Berlin (Germany), July 2023.

Landais, A., Agosta, C., Vimeux, F., Magand, O., Solis, C., **Cauquoin, A.**, Risi, C., Fourré, É., Leroy-Dos Santos, C., Cattani, O., Minster, B., and Casado, M. Modeling abrupt excursions in water vapor isotopic variability at Amsterdam Island is a challenge for atmospheric models, IUGG, Berlin (Germany), July 2023.

Bong, H., **Cauquoin, A.**, Okazaki, A., Chang, E.-C., Werner, M., Wei, Z., Yeo, N. and Yoshimura, K. Process-based quantification of uncertainty in water isotope models, *International Symposium on Isotope Hydrology at IAEA*, Vienna (Austria), July 2023.

Li, Y., Kino, K., **Cauquoin, A.** and Oki, T. Contribution of Lakes in Sustaining Greening of the Sahara during the Mid-Holocene, *JpGU 2023*, Chiba (Japan), May 2023.

Okazaki, A., Tanoue, M., Kino, K., **Cauquoin, A.** and Yoshimura, K. Estimation of parameters in an isotope-enabled GCM with data assimilation, *JpGU 2023*, Chiba (Japan), May 2023.

Werner, M. and **Cauquoin, A.** Climate trends, variability and extremes recorded by water isotopes during the last two millennia, *EGU23*, Vienna (Austria), April 2023.

Krätschmer, S., **Cauquoin, A.**, Lohmann, G. and Werner, M. Investigating the Effects of Prescribing Different Sea Surface Temperature Reconstructions on the Mineral Dust Cycle During the Last Glacial Maximum, *EGU23*, Vienna (Austria), April 2023.

Paul, A., Tharammal, T., Werner, M., Mulitza, S. and **Cauquoin, A.** Impact of colder vs. warmer tropical sea-surface temperature on water isotopes in precipitation during the Last Glacial Maximum, *EGU23*, Vienna (Austria), April 2023.

Kino, K., **Cauquoin, A.**, Okazaki, A., Oki, T. and Yoshimura, K. Heavy Water Isotope Precipitation in Inland East Antarctica Accompanied by Strong Southern Westerly Winds during the Last Glacial Maximum, *EGU23*, Vienna (Austria), April 2023.

Bailey, A. R., Singh, H. K. A., Nusbaumer, J. M., Casado, M., **Cauquoin, A.**, Heyblom, K. B. and Worden, J. Changing length scales of moisture transport — their isotopic imprint and implications for remote moisture dependence, *EGU23*, Vienna (Austria), April 2023.

Bailey, A. R., Singh, H. K. A., Nusbaumer, J. M., Casado, M., **Cauquoin, A.** and Heyblom, K. B. Length Scales of Poleward Moisture Transport, *AMS 2023*, Denver (USA), January 2023.

Kino, K., Okazaki, A., **Cauquoin, A.** and Yoshimura, K. Contributions of the Southern Annular Mode to Variations in Water Isotopes of Daily Precipitation at Dome Fuji, East Antarctica - Study of An Isotope-Enabled Climate Model, *AGU 2022*, Chicago (USA), December 2022.

Bong, H., **Cauquoin, A.**, Okazaki, A., Chang, E.-C., Werner, M., Wei, Z., Yeo, N. and Yoshimura, K. Inter-comparison of Water Isotope-enabled Models and Reanalysis Nudging Effects, *AGU 2022*, Chicago (USA), December 2022.

Kino, K., Okazaki, A., **Cauquoin, A.** and Yoshimura, K. Contributions of the Southern Annular Mode to Variations in Water Isotopes of Daily Precipitation at Dome Fuji, East Antarctica, *IPICS 2022*, Crans-Montana (Switzerland), October 2022.

Dreossi, G., Stenni, B., Masiol, M., Scarchilli, C., Del Guasta, M., Petteni, A., Casado, M., Werner, M., and **Cauquoin, A.** Ten years of isotopic composition of precipitation at Concordia Station, East Antarctica, *IPICS 2022*, Crans-Montana (Switzerland), October 2022.

Kino, K., Okazaki, A., **Cauquoin, A.** and Yoshimura, K. Impacts of intermittent precipitation events on reconstructed Last Glacial Maximum surface temperature from water isotope signals in Dome Fuji ice cores, *JpGU 2022*, Chiba (Japan), May 2022.

Paul, A., Tharammal, T., **Cauquoin, A.** and Werner, M. Evaluating atmospheric simulations of the Last Glacial Maximum using oxygen isotopes in ice cores and speleothems, *EGU 2022*, Vienna (Austria), May 2022.

Yang, Y., **Cauquoin, A.**, Yoshimura, K. and Werner, M. Isotopic signals in precipitation and water vapor during the Hurricanes Irma & Maria, *"Water Isotope: From Weather to Climate" workshop*, Kashiwa (Japan local hub), November 2021.

Shi, X., Werner, M., **Cauquoin, A.** and Sun, Y. Preliminary results of an isotope-enabled earth system model AWIESM-wiso, *"Water Isotope: From Weather to Climate" workshop*, Bremerhaven (Germany local hub), November 2021.

Okazaki, A., **Cauquoin, A.**, Kino, K. and Yoshimura, K. Development of MIROC5-iso and its comparison with isotopic climate proxies, *"Water Isotope: From Weather to Climate" workshop*, Kashiwa (Japan local hub), November 2021.

Leroy-Dos Santos, C., Landais, A., Fourré, É., Agosta, C., **Cauquoin, A.** and Werner, M. From atmospheric water isotopes measurement to snow core interpretation in Adelie Land: A case study for GCMs with embedded isotopes in Antarctica, *"Water Isotope: From Weather to Climate" workshop*, online, November 2021.

Kino, K., Okazaki, A., **Cauquoin, A.** and Yoshimura, K. Contribution of the Southern Annular Mode to variations in water isotopes of daily precipitation at Dome Fuji, East Antarctica: A study with an isotope-enabled AGCM MIROC5-iso, *"Water Isotope: From Weather to Climate" workshop*, Kashiwa (Japan local hub), November 2021.

Bong, H., **Cauquoin, A.**, Chang, E.-C., Werner, M., Yeo, N. and Yoshimura, K. Inter-comparison of water isotope-enabled models and reanalysis nudging effects: step forward in SWING project, *"Water Isotope: From Weather to Climate" workshop*, Kashiwa (Japan local hub), November 2021.

Kino, K., Okazaki, A., **Cauquoin, A.** and Yoshimura, K. Impacts of large scale atmospheric circulation and its seasonality on water isotopes of daily precipitation at Dome Fuji Station: A study with an isotope-enabled AGCM MIROC5-iso, *JpGU 2021*, Yokohama (Japan), June 2021.

Paul, A., **Cauquoin, A.**, Mulitza, S., Tharammal, T. and Werner, M. Sensitivity of simulated oxygen isotopes in ice cores and speleothems to Last Glacial Maximum surface conditions, v*EGU 2021*, Vienna (Austria), April 2021.

Jungclaus, J., Alastrue de Asenjo, E., **Cauquoin, A.**, Fang, S.-W., Khodri, M., Lorenz, S., Ohgaito, R., Sam, T., Timmreck, C., Toohey, M., Werner, M., Yoshida, K., Zanchettin, D., and Zhang, Q.: Transient simulations over the Common Era in PMIP4/CMIP6, v*EGU 2021*, Vienna (Austria), April 2021.

Paul, A., Werner, M., **Cauquoin, A.**, García-Pintado, J., Kovacs, T., Merkel, U. and Tharammal, T. Simulated vs. reconstructed Last Glacial Maximum surface conditions: impact on oxygen isotopes in ice cores, speleothems and precipitation, *AGU 2020*, San Francisco (USA), December 2020.

Marti, O., Bassinot, F., Braconnot, P., Jungclaus, J., **Cauquoin, A.**, Lohmann, G., Shi, X. and Werner, M. Transient Holocene simulations compared to deep sea cores in the Indian ocean, *PMIP 2020*, Nanjing (China), October 2020.

Kino, K., Okazaki, A., **Cauquoin, A.**, and Yoshimura, K. LGM simulation with MIROC5-iso and impacts of the synoptic scale events on stable water isotopes in the Antarctic ice cores, *PMIP 2020*, Nanjing (China), October 2020.

Werner, M., Bonne, J.-L., **Cauquoin, A.** and Steen-Larsen, H. C. Key controls of water vapour isotopes during oceanic evaporation and their global impact, *EGU 2020*, Vienna (Austria), May 2020.

Stenni, B., Dreossi, G., Casado, M., Scarchilli, C., Landais, A., Del Guasta, M., Grigioni, P., Casasanta, G., Werner, M., Masiol, M., **Cauquoin, A.** and Ciardini, V., A Nine-year series of daily oxygen and hydrogen isotopic composition of precipitation at Concordia station, East Antarctica, *EGU 2020*, Vienna (Austria), May 2020.

Paul, A., Werner, M., **Cauquoin, A.**, García-Pintado, J., Merkel, U. and Tharammal, T. Sensitivity of isotopes in the hydrological cycle to simulated vs. reconstructed Last Glacial Maximum surface conditions, *EGU 2020*, Vienna (Austria), May 2020.

Kino, K., Okazaki, A., **Cauquoin, A.** and Yoshimura, K. Investigation of the response of water isotope records to the changes in orbital forcing with the isotope-enabled AGCM MIROC5-iso, *EGU 2020*, Vienna (Austria), May 2020.

Werner, M., **Cauquoin, A.**, Gierz, P., Yuchen, S. and Lohmann, G. Stable water isotope changes in PMIP-type Paleoclimate simulations – results from the fully coupled ECHAM5/MPI-OM and MPI-ESM model, *US CLIVAR Water Isotopes and Climate Workshop*, Boulder (USA), October 2019.

Fourré, É., Touzeau, A., Baroni, M., Landais, A., **Cauquoin, A.**, Servettaz, A., Magand, O., Curran, M., Sültenfuß, Jean-Baptiste, P., Bard, É. and Aster Team. Tritium variability in snow pits from East Antarctica, *27th International Union of Geodesy and Geophysics General Assembly*, Montreal (Canada), July 2019.

Fourré, É., Landais, A., Leroy Dos Santos, C., Prié, F., Goursaud, S., **Cauquoin, A.** and others. Water isotopes recorded in Antarctica ice core cores: beyond past climatic reconstructions, tracers of hydrosphere-atmosphere interactions, *International Symposium on Isotope Hydrology: Advancing the understanding of water cycle processes (IAEA)*, Vienna (Austria), May 2019.

Zhang, X., Barker, S., Knorr, G., Werner, M., **Cauquoin, A.**, Lohmann, G. and Sun, Y. What causes the mid-mid-brunes transition in benthic $\delta^{18}O$ stack?, *EGU 2019*, Vienna (Austria), April 2019.

Werner, M., Lohmann, G. and **Cauquoin, A.** Assessing LGM changes of the Antarctic and Greenland ice sheets by explicit water isotope diagnostics, *PalMod International Open Science Conference*, Vienna (Austria), April 2018.

Christner, E., Pfahl, S., Scholder-Aemisegger, F., Werner, M., **Cauquoin, A.**, Barthlott, S., Schneider, M., Steen-Larsen, H.-C., Schädler, G. and Kottmeier, C. Modeling stable water isotopes in the Arctic region with $COSMO_{iso}$, *CLM-Community assembly 2017*, Graz (Austria), September 2017.

Fourré, É., Landais, A., **Cauquoin, A.**, Jean-Baptiste, P. and Petit, J.-R. Tritium records to trace stratospheric moisture inputs in Antarctica with stable water isotopes and other tracers, *EGU 2017*, Vienna (Austria), April 2017.

Christner, E., Pfahl, S., Werner, M., **Cauquoin, A.**, Scholder-Aemisegger, F., Barthlott, S., Schneider, M. and Schädler, G. Modeling of stable water isotopes in Central Europe with COSMOiso, *EGU 2016*, Vienna (Austria), April 2016.

Raisbeck, G. M., Jouzel, J., Yiou, F., **Cauquoin, A.**, Landais, A., Petit, J.-R., Lipenkov, V. Y., Beer, J., Synal, H.-A., Oerter, H., Johnsen, S. J., Steffensen, J. P. and Svensson, A. An improved North-South synchronization of ice core records around the 41 K beryllium-10 peak, *IPICS 2016*, Hobart (Australia), March 2016.

Casado, M., **Cauquoin, A.**, Landais, A., Landsberg, J., Kerstel, E. and Doussin, J.-F. Experimental determination for kinetic fractionation during solid condensation at low temperature and theoretical framework, *EGU 2014*, Vienna (Austria), May 2014.

Capron, E., Landais, A., Buiron, D., **Cauquoin, A.**, Chappellaz, J., Debret, M., Jouzel, J., Leuenberger, M., Martinerie, P., Masson-Delmotte, V., Mulvaney, R., Parrenin, F. and Prié, F. Glacial–interglacial dynamics of Antarctic firn columns: comparison between simulations and ice core air-$\delta^{15}N$ measurements, *AGU 2013*, San Francisco (USA), December 2013.

Casado, M., Landais, A., Prié, F., **Cauquoin, A.**, Guilbaud, S., Pangui, E., Morales, S., Doussin, J.-F., Landsberg, J., Chelli, B., Uemura, R., Risi, C. Le Fractionnement isotopique à très basse température lors de la condensation solide, *SFIS JJC6*, Dunkerque, October 2013.

Raisbeck, G.M., **Cauquoin, A.**, Jouzel, J., Bard, E. and ASTER Team. Synchronization of the EPICA Dome C ice core with marine sediments from 355-800 ka using proxies of the paleomagnetic field intensity, *IPICS 2012*, Giens, October 2012.