Dr. Claudia Frauen – CV

Contact information

Claudia Frauen
CNRM-GAME (GMGEC/ASTER)
42, Av. G. Coriolis
31057 Toulouse Cedex 1
France

Tél. +33 (0) 5 61 07 93 77
claudia.frauen@meteo.fr

Education

12/2010 **Ph.D., Meteorology**
Leibniz Institute of Marine Sciences at the University of Kiel (IFM-GEOMAR) (now GEOMAR – Helmholtz Centre for Ocean Research Kiel), Kiel, Germany
Thesis: *ENSO mechanisms and interactions in a hybrid coupled recharge oscillator model*

02/2007 **Diploma, Mathematics**
Aachen University of Applied Sciences, Department Juelich and Juelich Research Center, Institute for Biotechnology 2, Juelich Germany
Thesis: *Schnelle Loesung chromatographischer Partikel- und Saeulenmodelle auf Parallelrechnern* (Fast Solving of Chromatographic Particle and Column model on Parallel Computers)

Career

05/2014-present **Researcher at the CNRM-GAME**, Toulouse, France within the EU FP7 project PREFACE (Enhancing Prediction of Tropical Atlantic Climate and its Impacts)

- Studying the initial development of tropical Atlantic biases in initialized hindcast experiment
- Developing and performing targeted sensitivity experiments with the CNRM-CM model

10/2011-05/2014 **Postdoctoral Research Fellow at Monash University and ARC Centre of Excellence for Climate System Science**, Melbourne, Australia

- Development of an hierarchy of climate models based on the ACCESS model for studies of climate variability on interannual to multi-decadal time scales
- Studies of the nonlinearities of ENSO and its teleconnections

01/2011-02/2011 **Visiting Scientist at Monash University**, Melbourne, Australia

11/2010-08/2011 **Postdoctoral Research Fellow at Leibniz Institute of Marine Sciences at the University of Kiel (IFM-GEOMAR)**, Kiel, Germany

- Studying the influence of the tropical Indian and Atlantic Oceans on ENSO

07/2007-10/2010	**PhD student at Leibniz Institute of Marine Sciences at the University of Kiel (IFM-GEOMAR)**, Kiel, Germany • Development of a hybrid coupled ENSO recharge oscillator model to study the mechanisms and interactions of ENSO
03/2005-02/2007	**Application Programmer at Juelich Research Center, Institute for Biotechnology 2**, Juelich, Germany • Further development and parallelisation of chromatographic particle and column models for the use on super computers
09/2002-02/2005	**Job training as a Mathematical Technical Assistant at Juelich Research Center**, Juelich, Germany

Skills

Computing Skills	• Programming languages: Extensive experience with Fortran and C, Python, basic experience with Java and C++ • Platforms: Unix/Linux, Mac, Windows • Scientific Visualisation: GrADS, Matlab, Python • Parallel Programming with MPI • Shell scripting
Languages	• German – mother tongue • English – fluent • French – good command • Spanish - basic

Other

Teaching and supervision experience	• Associate supervisor of Monash University PhD student Byju Pookkandy working on „The dynamics of sea surface temperature variability at midlatitudes and its climatic impacts“ • Lecture and lab session „The Monash simple climate model“ at the ARC Centre of Excellence for Climate System Science 2nd annual winter school „Modelling the Climate System“ • Guest lecture „Stochastic Climate Models“ within the Climate Dynamics lecture series at Monash University • Supervising students in the Advanced Meteorological Seminar at IFM-GEOMAR
Reviewing	Geophysical Research Letters, Journal of Climate, Climate Dynamics

Publications

Submitted

López Parages, J., B. Rodríguez de Fonseca, D. Dommenget and C. Frauen (2015), ENSO influence on the North Atlantic European climate: A non-linear and non-stationary approach, Climate Dynamics, submitted.

Pookkandy, B., D. Dommenget, N. Klingaman, S. Wales, C. Chung, C. Frauen, and H. Wolff (2015), The role of local atmospheric forcing on the modulation of the ocean mixed layer depth in reanalyses and a coupled single column ocean model, Climate Dynamics, submitted.

Peer-reviewed

Yu, Y., D. Dommenget, C. Frauen, G. Wang, and S. Wales (2015), ENSO dynamics and diversity resulting from the recharge oscillator interacting with the slab ocean, Climate Dynamics, online, doi:10.1007/s00382-015-2667-1.

Tyrrell, N. L., D. Dommenget, C. Frauen, S. Wales, and M. Rezny (2015), The influence of global sea surface temperature variability on the large-scale land surface temperature, Climate Dynamics, 44(7), pp 2159-2176, doi:10.1007/s00382-014-2332-0.

Wang, G., D. Dommenget, and C. Frauen (2015), An evaluation of the CMIP3 and CMIP5 simulations in their skill of simulating the spatial structure of SST variability, Climate Dynamics, 44(1), pp 95-114, doi:10.1007/s00382-014-2154-0.

Frauen, C., D. Dommenget, N. Tyrrell, M. Rezny, and S. Wales (2014), Analysis of the Nonlinearity of El Niño–Southern Oscillation Teleconnections, J. Climate, 27, 6225–6244, doi:10.1175/JCLI-D-13-00757.1.

Dommenget, D., S. Haase, T. Bayr, and C. Frauen (2014), Analysis of the Slab Ocean El Nino atmospheric feedbacks in observed and simulated ENSO dynamics, Climate Dynamics, 42(11), pp 3187-3205, doi:10.1007/s00382-015-2667-1.

Dommenget, D., T. Bayr, and C. Frauen (2013), Analysis of the non-linearity in the pattern and time evolution of El Niño southern oscillation, Climate Dynamics, 40(11), pp 2825-2847, doi:10.1007/s00382-012-1475-0.

Frauen, C., and D. Dommenget (2012), Influences of the tropical Indian and Atlantic Oceans on the predictability of ENSO, Geophys. Res. Lett., 39, L02706, doi:10.1029/2011GL050520.

Frauen, C., and D. Dommenget (2010), El Niño and La Niña amplitude asymmetry caused by atmospheric feedbacks, Geophys. Res. Lett., 37, L18801, doi:10.1029/2010GL044444.

Proceedings

von Lieres, E., C. Frauen and K. Noeh (2007), Fast solution of chromatographic particle and column models on parallel computers, International Journal of Pure and Applied Mathematics, 42, 309-317