

Eric Jansen | Curriculum Vitae

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WORK EXPERIENCE

2015 – present **Postdoctoral Researcher**

Centro Euro-Mediterraneo sui Cambiamenti Climatici, Lecce (Italy)

Researcher working on ocean data assimilation and Lagrangian modelling.

Developing a new data assimilation system for the regional model of the Adriatic and Ionian Seas. This system is based on the ensemble Kalman filter technique and is designed to be easily extendable with new types of observation. Within the Jerico-Next research project it is used to study the assimilation of high-frequency radar surface current observations.

Developed a new numerical model for two- and three-dimensional passive tracer transport in the ocean. Among other applications, this model has been used to perform long-term, high-resolution modelling of floating debris from flight MH370.

Main responsible for the operational search-and-rescue decision support system, a web-application that helps maritime authorities in planning search-and-rescue missions in the Mediterranean Sea.

2010 – 2015 **Postdoctoral Research Associate**

University College, London (United Kingdom)

Researcher for the ATLAS experiment at the CERN Large Hadron Collider (LHC). Performing data analysis of proton-proton collisions using grid computing and advanced statistical methods.

Main developer of the event visualisation software Atlantis, which aims to provide a graphical representation of complex collision events for publication, analysis and teaching purposes. Taught several classes on using this software, both for beginners and for advanced users.

Responsible for part of the monitoring software during the day-to-day operation of the ATLAS detector. Worked in the control room as on-call expert, technical operator of the detector software and leader of the shift crew.

2005 – 2010 **Teaching assistant**

Radboud University, Nijmegen (The Netherlands)

Physics master courses in General Relativity and Tensor Calculus.

Bachelor courses in Electronics and C Programming.

2005 – 2010 **PhD in Physics**

Radboud University, Nijmegen (The Netherlands)

Thesis on the prospects for the discovery of supersymmetry at the LHC. Cosmological measurements have shown that around 25% of the Universe consists of so-called dark matter, a completely unknown form of matter. The theory of supersymmetry predicts several new elementary particles; among them possible constituents of dark matter. The higher collision energy of the LHC compared to earlier collider experiments may make it possible to produce these particles in the lab for the first time. CERN-THESIS-2011-027.

1999 – 2005 **MSc in Physics**

Radboud University, Nijmegen (The Netherlands)

Master's thesis on the visualisation and alignment of the ATLAS muon chambers at the H8 test beam facility at CERN.

ADDITIONAL INFORMATION

- Selected publications**
- > E. Jansen, G. Coppini and N. Pinardi, "Drift simulation of MH370 debris using superensemble techniques", *Nat. Hazards Earth Syst. Sci.*, **16** (2016), 1623–1628. *Receiving media coverage from: BBC, Der Spiegel, IB Times, The Guardian, France24, Mashable, Gizmodo, Wired, Phys.org and many others.*
 - > D. Wardrope, E. Jansen, N. Konstantinidis, et al., "Non-resonant Higgs pair production in the $b\bar{b}b\bar{b}$ final state at the LHC", *Eur.Phys.J.* **C75** (2015) 219.
 - > ATLAS Collaboration, "Measurement of ZZ production in pp collisions at $\sqrt{s} = 8$ TeV and limits on anomalous ZZZ and $ZZ\gamma$ couplings with the ATLAS detector", in preparation.
 - > ATLAS Collaboration, "Measurement of the $b\bar{b}$ -dijet cross-section in pp collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector", to be submitted to *Phys.Rev.D*.
 - > E. Jansen, "Studies of vector boson+jet production with ATLAS", In XXI. International Conference on Deep-Inelastic Scattering, PoS(DIS 2013)151
 - > ATLAS Collaboration, "Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC", *Phys.Lett.* **B716** (2012) 1–29.
 - > ATLAS Collaboration, "Measurement of differential production cross-sections for a Z boson in association with b -jets in 7 TeV proton-proton collisions with the ATLAS detector", *JHEP* **10** (2014) 141.
 - > ATLAS Collaboration, "Measurement of the inclusive and dijet cross-sections of b -jets in pp collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector", *Eur.Phys.J.* **C71** (2011) 1846.