

JENOUVRIER Stéphanie  
Nationality: French  
Date of birth: 3 august 1977

#### Tenured scientist

Centre National de la Recherche Scientifique, France

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*Measuring the length of the wing of an Adélie penguin*

#### Academic qualifications

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- **PhD in Population Ecology**, University of Pierre and Marie Curie (UPMC), Paris, France. 2001-2004.  
*Effects of climate variability on the population dynamics of an Antarctic seabird community*; supervised by Dr. Weimerskirch and Dr. Barbraud; Centre d'Etudes Biologiques de Chizé (CEBC) and Centre National de la Recherche Scientifique (CNRS), Villiers en Bois, France.  
Members of the jury: Dr. Caswell, Pr. Cazelles, Dr. Clobert, Dr. Croxall, Dr. Gaillard, Dr. Weimerskirch
- **Master in Ecology**, UPMC, department of ecology. 2001-1999.
  - *Biodiversity dynamics: reliability of the estimate*; supervised by Dr. Boulinier. 2001- 2000.
  - *Conservation of the golden eagle in the Mercantour National Park, France*; supervised by Dr. Sarazin. 2000-1999.
- **BSc of Science in Biology and Ecology**, University Paris-Sud, Orsay. 1999-1996.
  - *Monitoring brown bears in the Pyrenees National Park: a statistical method to identify individuals from their tracks*; supervised by J.J. Camarra and E. Corda; Office National de la Chasse, Pau and S<sup>t</sup> Benoît, France. 1999.
  - *Population monitoring: the example of the brown bear in the Pyrenees National Park*; supervised by Dr. Berducou; Office National des Forêts, Pau. 1998.

#### Appointment/ professional experience

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- 1st October 2009- present: **Tenured position**, at the Centre d'Etudes Biologiques de Chizé (CEBC) and Centre National de la Recherche Scientifique (CNRS). Chargé de recherché première classe.
- May 2009- March 2010: **Visiting Fellow** at the Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado at Boulder sponsored by a CIRES visiting fellowship -.
- April 2006- March 2010: **Post- doctorate position** at Woods Hole Oceanographic Institution and CEBC- CNRS; sponsored by Marie Curie fellowship (2007-2010) and L'OREAL-UNESCO fellowship for young woman in science (2006-2007).
- **Post- doctorate position**, CEBC-CNRS. *Demography of cory's shearwater (calonectris diomedea)*; sponsored by Life program on Cory's shearwater at Frioul Island. April- June and September- February 2005.

- **Teaching assistant**, CEBC: lectures in population ecology, biodiversity dynamics and the ecological effects of climate change for graduate and master students. 2005 – 2001.
- **Research assistant:**
  - *Foraging ecology and demography of Adélie penguin in the Ross sea, Antarctica*; NSF research programs directed by David Ainley (H.T. Harvey and Associates), Grant Ballard (PRBO Conservation Science ) and Katie Dugger (Oregon State University). December 2009- February 2010.
  - *Foraging ecology of Adélie penguin in Terre Adélie, Antarctica*; CEBC research programs directed by Dr. Bost. December 2005- February 2006.
  - *Demographic survey of seabirds in Terre Adélie, Antarctica* for my PhD; December 2002 – February 2003.
  - *Demographic survey of seabirds and fur seals in Kerguelen Islands*; CEBC research programs directed by Dr. Weimerskirch. January – April 2002.
  - *Predation risk and departure behavior in common guillemot chicks, habitat selection in kittiwakes and population genetic structure in the seabirds tick*, research programs directed by Dr. T. Boulonier and Dr K.D. McCoy. June-July 2000.

This field work involved monitoring population, breeding phenology, productivity, and foraging trips using standardized protocols: trapping and measuring of breeding adults, measuring chick growth parameters; tagging for longitudinal analyses of breeding and survival; satellite-tracking; characterization of diet using regurgitates; blood sampling; parasite sample.

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## Publications

- **Jenouvrier S.** and Visser M. Integrating ecological and evolutionary processes to predict population responses to climate change. In review.
- **Jenouvrier S.** Caswell H. Barbraud C. and Weimerskirch H. Mating behavior, population growth and the operational sex ratio: a periodic two-sex model approach. In press for the June issue of American Naturalist.
- Ainley, D. Russell J. **Jenouvrier S.** Woehler E. Lyvers P. Fraser W. and Kooyman G. 2010. Antarctic penguin response to habitat change as Earth's troposphere nears 2 degrees Celsius above pre-industrial levels. Ecological Monographs, 80: 49–66.
- **Jenouvrier S.** Barbraud C. Weimerskirch H. and Caswell H. 2009. Limitation of population recovery: a stochastic approach to the case of emperor penguin. Oikos, 118: 1292-1298.
- Igual M. Tavecchia G. **Jenouvrier S.** Forero M. and Oro D. 2009. Buying years to extinction: is compensatory mitigation for marine bycatch a sufficient conservation measure for seabirds? Plos One, 4:e4826.
- **Jenouvrier S.** Caswell H. Barbraud C. Holland M. Stroeve J. Weimerskirch. H. 2009. Demographic models and IPCC climate projections predict the decline of an emperor penguin population. Proceedings of the National Academy of Sciences, 106: 1844-1847
- **Jenouvrier S.** Thibault J.C. Viallefont A. Vidal P. Ristow D. Mougin J.L. Brichetti P. Borg J.J and Bretagnolle V. 2008. Global climate patterns explain range-wide synchronicity in survival of a migratory seabird. Global Change Biology, 14:1-12
- Cazelles B. Chavez M. Berteaux D. Ménard F. Vik J.O. **Jenouvrier S.** and Stenseth N.C. 2008. Wavelet analysis of ecological time series. Oecologia, 156: 287-304.
- **Jenouvrier S.** Thibault J.C. Tavecchia G. Choquet R. and Bretagnolle V. 2008. Recruitment processes in long-lived species with delayed maturity: estimating key demographic parameters. Oikos, 117: 620-628.

- Thibault, J-C. and **Jenouvrier S.** 2006. Annual survival rates of adult male Corsican Nuthatches. Ringing and migration, 23: 85-88.
- **Jenouvrier S.** and Bouludier T. 2006. Estimation of local extinction rates when species detectability covaries with extinction probability: is it a problem ? Oikos, 113: 132-138.
- **Jenouvrier S.** Barbraud C. and Weimerskirch. H. 2006. Sea ice affects the population dynamics of Adélie penguins in Terre Adélie. Polar Biology, 1432-2056.
- Poisbleau M. **Jenouvrier S.** and Fritz H. 2006. Use of dominance scores for assigning an individual rank in hierarchy. Animal Behaviour, 72: 835-843.
- **Jenouvrier S.** Barbraud C. and Weimerskirch. H. 2005. Long-term contrasted responses to climate of two Antarctic seabirds species. Ecology, 86:2889-2903.
- **Jenouvrier S.** Weimerskirch. H. Barbraud C. Park Y-H. and Cazelles B. 2005. Evidence of a shift in cyclicity of Antarctic seabirds dynamics link to climate. Proceedings of the Royal Society, 272: 887-895.
- Gimenez O. Barbraud C. Crainiceanu C. **Jenouvrier S** and Morgan B.J.T. 2005. Semiparametric regression in capture-recapture modeling. Biometrics, 62: 691-698.
- **Jenouvrier S.** Barbraud C. Cazelles B. and Weimerskirch H. 2005. Modelling population dynamics of seabirds: importance of the effects of climate fluctuations on breeding proportions. Oikos, 108: 511-522.
- **Jenouvrier S.** Barbraud C. and Weimerskirch. H. 2003. Effects of climate variability on the temporal population dynamics of southern fulmars. Journal of Animal Ecology, 72: 576-587.

#### **Selected communications**

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- *Population responses of Antarctic top predators to climate change.* 14th Annual Community Climate System Model Workshop. 15 - 18 June 2009, Breckenridge, Colorado, USA. **Invited speaker.**
- *Linking demographic models and IPCC climate predictions to project the population responses to future climate changes.* University of Québec in Rimouski, Canada. 4 November 2008. **Invited speaker.**
- *Penguins in jeopardy under global warming in Antarctica.* 33<sup>rd</sup> annual congress of La société québécoise pour l'étude du comportement. 31 October- 2 November 2008, Canada. **Invited speaker (opening lecture).**
- *Penguins in jeopardy under global warming in Antarctica.* Annual Barrett-Hamilton lecture, University of Manitoba, 28 October 2008, Canada. **Invited speaker (public lecture).**
- *Impact of phenological changes on population dynamic: sensitivity analysis.* Workshop - Instituto Mediterraneo de Estudios Avanzados (IMEDEA), Majorca, Spain. 22-25 July 2008.
- *Stochastic demography and population viability: Are emperor penguins marching toward their extinction?* Ecological Society of America conference, San Jose, California, USA. 5-10 August 2007.
- *Modeling breeding processes in long-lived species with delayed maturity and skipping breeding.* (poster) EURING Technical / Meeting: The quantitative study of marked individuals in ecology, evolution and conservation biology Dunedin, New Zealand. 14-19 January 2007.
- *Long-term contrasted responses to climate of two Antarctic seabirds species.* Centre d'Ecologie Fonctionnelle et Evolutive, Montpellier, France, 27 October 2006. **Invited speaker (lecture).**
- Working Group on Albatross Demography. CNRS- CEBC, Chizé, France. 15-19 May 2006 ; 1-7 May 2005; 21-26 September 2004 *The March of the Emperor against the Flight of Petrels.* Dissertations initiative for advancement of Climate Change Research. Asilomar Conference Center, Pacific Grove, California. 26 March - 2 April 2006. **Invited speaker.**
- *Climate change: the March of the Emperor against the Flight of Petrels.* University of Aberdeen, Scotland, May 2006. **Invited speaker (lecture).**

- *Comparison of adult survival of Cory's shearwater across six localities.*  
IMEDEA, Spain, November 2005. **Invited speaker (lecture).**
- *Population responses to climate change.*  
Workshop ACI quantitative, CLIM POP, Montpellier 2004.
- *Effects of climate variability on a southern fulmar population dynamics.*  
3rd International Wildlife Management Congress, Christchurch, New Zealand. 2003.
- *Modeling the population dynamics of two Antarctic seabirds.* EURING Technical Meeting: The quantitative study of marked individuals in ecology, evolution and conservation biology. 2003 **Fellowship and Awards**
- Cooperative Institute for Research in Environmental Sciences visiting fellowship (2009- 2010)
- Marie Curie fellowship (2007-2010)
- L'OREAL-UNESCO fellowship for young woman in science (2006).

### Synergistic activities

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- Reviewer for Ecological Applications, Global Change Biology, Ecology, Journal of Animal Ecology, Journal of Applied Ecology, Marine Ecology Progress Series, Ecography, Polar Biology and for the National Science Foundation.
- Education of non-scientific community:
  - o documentary: e.g. *Un été en Antarctique* by Yvon Legars et Katell Pierre; podcast from Science Fondation: [http://www.nsf.gov/news/special\\_reports/science\\_nation/emperorpenguins.jsp](http://www.nsf.gov/news/special_reports/science_nation/emperorpenguins.jsp);
  - o press e.g. Oceanus : <http://www.whoi.edu/oceanus/viewArticle.do?id=59246&archives=true>;
  - o booklet for SCIENCE magazine to promote the role of woman in science [sciencecareers.sciencemag.org/lorealwis](http://sciencecareers.sciencemag.org/lorealwis)
- Media interviews (radio, TV show, press)