



## CURRICULUM VITAE

**Pierluigi Calanca, Dr. Sc. Nat ETH Zürich**

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### Personal data

Born June 14, 1963 in Bellinzona, Ticino, Switzerland  
Citizen of Acquarossa Ticino, Switzerland  
Status Married to Luzia Nigg Calanca. Two children: Emanuele (09.10.2003) and Aurelia (06.04.2007) Calanca  
Languages Italian (native), English, German, French and Spanish

### Education

PhD 1993, at the Department of Natural Sciences, Swiss Federal Institute of Technology (ETH), Zürich. PhD thesis: "The atmospheric water vapour budget over Greenland".  
Master 1987 at the Department of Natural Sciences, Swiss Federal Institute of Technology (ETH), Zürich. Master thesis ("Die Verdunstung auf Hochgebirgsgletscher, Tianshan, China") awarded with the Silber Medal of the ETHZ.

### Professional experience

Since 2001 Senior researcher at Agroscope Reckenholz-Tänikon (Natural Resources and Agriculture). PI of the project "Climate Change and Agriculture".  
Since 2005 Expert for the Commission on Agricultural Meteorology of the WMO RA VI, and Swiss Representative of COST Action 734 ([www.cost734.eu](http://www.cost734.eu))  
1997-2007 Senior researcher at the Institute of Atmospheric Science and Climate, ETH Zürich. Research focus: micrometeorology. During this time lecturer at the same institute. Introductory classes and master classes in climatology. Advisor of several Master and PhD theses.  
1995-1997 Staff scientist in the Air Pollution/Environmental Physics group at the Swiss Federal Institute for Material Research (EMPA). Research on modelling air pollutant dispersion.  
1994-1995 Post-Doctoral Fellow at the Meteorological Institute of the University of Helsinki Helsinki, Finland. Research on the diagnosis of atmospheric fields.

### Memberships

Royal Meteorological Society, American Geophysical Union, International Society for Agricultural Meteorology, Swiss Society for Meteorology

## RESEARCH

### Research interests

- Understanding climate change and variability
- Assessing climate change impacts on agroecosystems
- Application of weather and climate forecasts to agrometeorological decision problems
- Modelling the water, carbon and nitrogen cycling in agricultural ecosystems
- Boundary layer meteorology
- Bayesian inference

### Recent research projects

- Since 2009 “Climate change and agricultural production risks (AGRISK)”, a project in the framework of Phase III of the National Centre for Competence in Research on Climate (NCCR Climate), with grant by the Swiss National Science Foundation ([www.nccr-climate.unibe.ch](http://www.nccr-climate.unibe.ch))
- Since 2006 NitroEurope IP “The nitrogen cycle and its influence on the European greenhouse gas balance”. European Commission, DG Research 6th Framework Programme - Contract no 017841-2. Project coordinator: Mark A. Sutton, Centre for Ecology and Hydrology (CEH), Edinburgh Research Station, Bush Estate, Penicuik, EH26 0QB, UK ([www.nitroeuropa.eu](http://www.nitroeuropa.eu))
- 2007-2008 “Application of Short Term Climate Predictions to Agriculture”, a project in the framework of Phase II of the National Centre for Competence in Research on Climate (NCCR Climate), with grant by the Swiss National Science Foundation
- 2005-2006 “Soil carbon storage in grassland under different management and climate change scenarios”, a project in the framework of COST 627, State Secretariat for Education and Research (SER), project no. C04.0253

## SELECTED PUBLICATIONS

- Calanca P., Bolius D., Weigel A.P., Liniger M.A. (2010) Application of long-range weather forecasts to agricultural decision problems in Europe. *Journal of Agricultural Science* (in press)
- Lazzarotto P., Calanca P., Semenov M., & Fuhrer J. (2010) Transient responses to increasing CO<sub>2</sub> and climate change in an unfertilized grass-clover sward. *Climate Research* **41**: 221-232
- Salzmann N., Huggel C., Calanca P., Diaz A., Jonas T., Jurt C., Konzelmann T., Lagos P., Rohrer M., Silverio W. & Zappa M. (2009) Integrated assessment and adaptation to climate change impacts in the Peruvian Andes. *Advances in Geosciences* **22**: 35-39

- Lazzarotto P., Calanca P. & Fuhrer J. (2008) Dynamics of grass-clover mixtures. An analysis of the response to management with the PROductive GRASsland Simulator (PROGRASS). *Ecological Modelling* **220**: 703-724
- Torriani D.S., Calanca P., Beniston M. & Fuhrer J. (2008) Hedging with weather derivative to cope with climate variability and change in grain maize production. *Agricultural Finance Review* **68**: 67-81
- Lips M., Finger R. & Calanca P. (2008) Potenzielle Auswirkungen des Klimawandels auf Risiko und Kosten der Weizenernte. *Yearbook of Socioeconomics in Agriculture 2008*, 219-232
- Calanca P. (2007) Climate change and drought occurrence in the Alpine region: how severe are becoming the extremes? *Global and Planetary Change* **57**: 151–160
- Torriani D.S., Calanca P., Schmid S., Beniston M. & Fuhrer J. (2007) Potential effects of changes in mean climate and climate variability on the yield of winter and spring crops grown in Switzerland. *Climate Research* **34**: 59-69
- Torriani D.S., Calanca P., Lips M., Ammann H., Beniston M. & Fuhrer J. (2007) Using a statistical model for the regional assessment of climate change impacts on the productivity of summer crops and associated production risk. *Regional Environmental Change* **7**: 209-221
- Calanca P., Vuichard N., Campbell C., Viovy N., Cozic A., Fuhrer J. & Soussana, J.-F. (2007) Simulating the fluxes of CO<sub>2</sub> and N<sub>2</sub>O in European grasslands with the Pasture Simulation Model (PaSim). *Agriculture, Ecosystems and Environment* **121**: 164–174
- Calanca P., Roesch A., Jasper K. & Wild M. (2006) Global warming and the summertime evapotranspiration regime of the Alpine region. *Climatic Change* **79**: 65–78
- Jasper K., Calanca P. & Fuhrer J. (2006) Changes in summertime soil water patterns in complex terrain due to climatic change. *Journal of Hydrology* **327**: 550– 563
- Calanca P. (2004) Interannual variability of summer mean soil moisture conditions in Switzerland during the twentieth century: A look using a stochastic soil moisture model. *Water Resources Research* **40**, W12502, doi:10.1029/2004WR003254
- Jasper K., Calanca P., Gyalistras D. & Fuhrer J. (2004) Differential impacts of climate change on the hydrology of two alpine river basins. *Climate Research* **26**: 113-129