

Curriculum vitae

Personal details:

Title: PhD.
Surname: **FONTI**
Given name: **Patrick**
Phone-number: 0041 44 739 22 85
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Date of birth: 14.09.1971
Residence: CH-5000 Aarau
Marital status: Single
Native language: Italian
Foreign languages: French, German, English



Education:

PhD **Swiss Federal Institute of Technology in Zurich**, Faculty of forest science
Dissertation: July 2002
Investigation into ring shake of chestnut; Prof. Jürgen Sell (EMPA Dübendorf, CH), Bernard Thibaut (University of Montpellier, F), Nicola Macchioni (CNR Firenze, I)

Postgraduate course **Swiss Federal Institute of Technology in Zurich**, Postgraduate course in applied statistic at the Federal Institute of Technology in Zurich
Diploma: May 1999

BS **Swiss Federal Institute of Technology in Zurich**, Faculty of forest science
Diploma in Forest sciences: February 1997

High school licence **High school in Lugano**
Maturity type C: June 1991

Professional experiences:

July 2006-present Scientific research associate, WSL, Research unit: Dendro-sciences, subunit: Palaeo-Ecology, Birmensdorf

Nov 2003-June 2006 Scientific research associate, WSL, Sottostazione Sud delle Alpi, Bellinzona

Aug 2003-Oct 2003 Post doctoral fellow, University of California Berkeley, Division of ecosystem science (prof. G. Biging)

March 2003-July 2003 Collaborator at the environmental consulting office Dionea SA, Locarno

Sept 2002-Feb 2003 Post doctoral fellow, WSL, Sottostazione Sud delle Alpi, Bellinzona

2000-Jul 2002 PhD-student, WSL, Sottostazione Sud delle Alpi, Bellinzona

2000 Graduate teaching assistant, Swiss Federal Institute of Technology in Zurich (Prof. Kucera, Faculty of Forest sciences)

1998-1999 Research associate, WSL, Sottostazione Sud delle Alpi, Bellinzona

1997 WSL, Sottostazione Sud delle Alpi, jobless occupational program

1995 4 months practical course in Madagascar (project on the management of forest genetic resources)

1994-1995 Twice 6 months practical course at a Swiss Forest Department (Yverdon, Brig)

List of Publications

A) ISI-Papers

- Moser L, **Fonti P**, Franzen J, Büntgen U, Luterbacher J, Esper J, Frank D (**in review**) Assessing timing and duration of the 2007 growing season along an altitudinal transect in the Lötschental, Switzerland. *Tree physiology*
- Galle, A., **Fonti, P.**, Feller, U., Ribas-Carbo, M., Esper, J. (**in review**). Intra-and inter-annual effects of drought on wood formation: a case study on *Quercus pubescens* under controlled water conditions. *Trees*
- Eilmann, B., Zweifel, R., Buchmann, N., **Fonti, P.**, Rigling, A. (**in review**). Drought-induced adaptation of the xylem in *Pinus sylvestris* and *Quercus pubescens*. *Tree Physiology*
- **Fonti, P.**, Treydte, K., Osenstetter, S., Frank, DC., Esper, J. (**in press**). Frequency-dependent signals in multi-centennial oak vessel data. *Palaeogeography, Palaeoclimatology, Palaeoecology*
- **Fonti, P.**, Eilmann, B., Garcia Gonzalez, I., von Arx, G. (**in press**). Expeditious building of ring-porous earlywood vessel chronologies without losing signal information.
- **Fonti, P.**, Garcia Gonzalez, I. (2008). Earlywood vessel size of oak as a potential proxy for spring precipitation in mesic sites. *Journal of Biogeography* 35, 2249-2257.
- Garcia Gonzalez, I., **Fonti, P.** (2008). Ensuring a representative sample of earlywood vessels for dendroecological studies: an example from two ring-porous species. *Trees* 22, 237-244.
- Weber, P., Bugmann, H., **Fonti, P.**, Rigling, A. (2008). Using a retrospective dynamic competition index to reconstruct forest succession. *Forest Ecology and Management* 54, 96-106.
- **Fonti, P.**, Solomonoff, N.; Garcia Gonzalez, I. (2007). Earlywood vessels size of *Castanea sativa* records temperature before their formation. *New Phytologist* 173:562-570.
- Vogt, J.; **Fonti, P.**; Conedera, M.; Schröder, B. (2006). Temporal and spatial dynamic of stool uprooting in abandoned chestnut coppice forests. *Forest Ecology and Management*, 235(1-3):88-95.
- Garcia Gonzalez, I., **Fonti, P.** (2006). Selecting earlywood vessels to maximize their environmental signal. *Tree Physiology* 26(9): 1289-1296.
- **Fonti, P.**, Cherubini, P., Rigling, A., Weber, P., Biging, G. (2006). Tree rings show competition dynamics in abandoned *Castanea sativa* coppices after land-use changes. *Journal of Vegetation Science* 17(1): 103-112.
- **Fonti, P.**, Garcia Gonzalez, I. (2004). Suitability of chestnut earlywood vessel chronologies for ecological studies. *New Phytologist* 163(1): 67-86.
- **Fonti, P.**, Macchioni, N. (2003). Ring shake in chestnut: Anatomical description, extent and frequency of failures. *Annals of forest sciences*. 60(5):403-408
- **Fonti, P.**, Sell, J. (2003). Radial split resistance of chestnut earlywood and its relation to the ring width. *Wood and Fiber science*, 35(2): 201-208
- **Fonti, P.**, Bräker O-U., Giudici, F. (2002): Relationship between ring shake incidence and earlywood vessel characteristics in chestnut wood. *IAWA*, 23(3): 287-298
- **Fonti, P.**, Frey, B. (2002). Is the ray volume a possible factor influencing ring shake occurrence in chestnut wood? *Trees – Structure and Function*, 16(8): 519-522
- **Fonti, P.**, Macchioni, N., and Thibaut, B. (2002). Ring shake in chestnut (*Castanea sativa* Mill.): state of the art. *Annals of forest sciences*, 59(2): 129-140.

B) Reviewed-Papers (not ISI)

- Frank, D., Bouriaud, O., Wilson, R., Battipaglia, G., Büntgen, U., **Fonti, P.**, Treydte, K., Trouet, V., Esper, J. (2008) A challenge for spatially explicit reconstructions: the climate response of trees is a function of climate. In: Elferts D et al. (Eds.) *Tree rings in archaeology, climatology and ecology*. TRACE 6, 31-36.
- Brugger, S.; **Fonti, P.**; Kaiser, K.F.; Conedera, M. (2007). "Effetto di un incendio di superficie sulla crescita di castagni e ontani neri sul versante sudalpino Svizzero. *Bollettino della Societa' ticinese di Scienze naturali* 95, 15-22.
- **Fonti, P.** (2003). "Growth strain and ring shake in chestnut coppices trees". *Forêt méditerranéenne* 24(2): 141-147
- **Fonti, P.**; Giudici, F., Conedera, M. (2002). "La cipollatura nel legno di castagno: un problema centrale per il rilancio della castanicoltura da legno". *Schweiz. Z. Forstwes.*, 153(11): 430-436
- **Fonti, P.**; Giudici, F. (2002). "Produzione di parquet a partire da legname di castagno proveniente da boschi cedui del Sud delle Alpi". *Schweiz. Z. Forstwes.* 153 (1): 10-16.

- **Fonti, P.;** Giudici, F. (2001). "Quantità e qualità della massa legnosa ottenibile da un ceduo di castagno invecchiato". Schweiz. Z. Forstwes. 152 (10): 417-424.

C) Not reviewed-Papers

- Conedera, M.; **Fonti, P.;** Krebs, P., Rigling, A. (2004). "Jahrringe und Landschaftsentwicklung auf der Alpensüdseite". Schweiz. Z. Forstwes, 155(6): 191-197.
- Krebs, P.; **Fonti, P.** (2004). "Ma quanto sono vecchi ..." Agricoltore Ticinese 32: 18-19.
- Arnaboldi, F.; Conedera, M.; **Fonti, P.** (2003). "Caratteristiche anatomiche e auxometriche di *Ailanthus altissima*: una specie arborea a carattere invasivo", Sherwood 91(7-8): 19-25
- **Fonti, P.;** Giudici, F.; Conedera, M. (2003). "Produrre legname di castagno senza cipollatura: Utopia o realtà?". Agricoltore Ticinese 30: 12-13.

D) Conference-Papers

Conference paper

- **Fonti, P.,** Giudici, F. (2005). Reducing the risk of ring shake. III International chestnut congress, Chaves (P) October 20th – October 23rd. Acta Horticulturae 693:733-741.
- Krebs, P.; Conedera, M.; **Fonti, P.** (2005): The inventory of the giant chestnut trees in southern Switzerland. - III International chestnut congress, Chaves (P) October 20th – October 23rd., Acta Horticulturae 693:171-177.
- **Fonti, P.,** Giudici, F., Kucera, L. J., Ott, E.; Pöhler, E., (1998) "Studio sulla cipollatura in un ceduo castanile", in: Comunità montana delle Prealpi Trevigiane (ed), Atti del Convegno nazionale sul castagno, Cison di Valmarino (I), 23-25 ottobre 1997, pp. 293-302.
- Giudici, F., **Fonti, P.,** Pöhler, E. Sandoz, J. L., (1998). "Qualità del legname di castagno: diagnosi della cipollatura per mezzo di ultrasuoni", in: Comunità montana delle Prealpi Trevigiane (ed), Atti del Convegno nazionale sul castagno, Cison di Valmarino (I), 23-25 ottobre 1997, pp. 259-267.

Talks (without conference paper)

- **Fonti, P.,** Eilmann, B., Garcia Gonzalez, I., von Arx, G. (2008) Precision vs. efficiency: how much information do we lose in an automated measurement of earlywood vessels? Eurodendro 2008, Hallstatt (A) May 28th – May 31st 2008.
- Garcia Gonzalez, I., Souto-Herrero, M., **Fonti, P.,** Gonzalez-Gonzalez, B. (2008) Comparing several growth variables obtained from the earlywood vessels of oak: climatic responses and ecophysiological meaning. Eurodendro 2008, Hallstatt (A) May 28th – May 31st 2008.
- **Fonti, P.,** Garcia Gonzalez, I., Eckstein, D. (2007). Tree-rings have not disclosed all their secrets yet: a novel application of wood anatomy reveals additional environmental information. IAWA meeting, San Luis Potosi (Mex) 16-20 July 2007.
- **Fonti, P.,** Garcia Gonzalez, I. (2006). Are cell anatomical features valuable environmental proxies? Indications from studies on *Castanea sativa* earlywood vessels? 7th International Conference on Dendrochronology, Beijing (China) June 11th – June 17th.
- Garcia Gonzalez, I., **Fonti, P.** (2006). Dendroecological analysis of earlywood vessel features of ring-porous trees: are some trends related to anatomy. 7th International Conference on Dendrochronology, Beijing (China) June 11th – June 17th.
- **Fonti, P.,** Solomonoff, N., Garcia Gonzalez, I. (2005). Temperature signal in chestnut earlywood vessel size: is there an ecophysiological explanation? Eurodendro 2005, Viterbo (I) September 28th – October 2nd.
- Brugger, S., Kaiser, F., **Fonti, P.,** Conedera, M. (2005). Plant-responses to fire: a tree-ring based analysis 6 years after an experimental forest fire. Trace 2005, Fribourg (CH) April 21st – April 23th.
- **Fonti, P.,** Garcia Gonzalez, I. (2005). Earlywood vessels selection influences the ecological signal. Trace 2005, Fribourg (CH) April 21st – April 23th.
- **Fonti, P.,** Rigling, A., Cherubini, P., Biging, G. (2004). Competition dynamic in a 60 years abandoned chestnut coppice stand. III International chestnut congress, Chaves (P) October 20th – October 23rd.
- Pividori, M., Armando, M., Conedera, M., **Fonti, P.** (2004). Post-cultural dynamics in a mixed chestnut coppices at its ecological border. III International chestnut congress, Chaves (P) October 20th – October 23rd.
- Macchioni, N., **Fonti, P.** (2001). "La cipollatura del legno di castagno: le diverse tipologie dal punto di vista anatomico". Convegno nazionale sul castagno, Marradi (I), 25-27 ottobre 2001.
- **Fonti, P.** (2001). "Raggi midollari e cipollatura del legno di castagno: vi sono delle relazioni?". Convegno nazionale sul castagno, Marradi (I), 25-27 ottobre 2001.

- **Fonti, P.** (2001). "Do ring shaken chestnut trees display larger earlywood vessels and/or less radial rays than unshaken ones?". COST G4 Multidisciplinary Chestnut research, Final meeting 2001, Ascona (CH), 23-27 May 2001.
- **Fonti, P.**; Giudici, F.; Benagli, G.; Giudicetti, N. (1998). "Sustainable management through a better use of chestnut wood? First results of a study made in the Southern part of the Swiss Alps. International symposium of the sustainability of chestnut forest in the Mediterranean region, Catania (I), 18-23 September 1998.

Posters (without conference paper)

- **Fonti, P.** (2006). Wood can tell us much more: extracting new environmental proxies from wood anatomical features. 7th Swiss Global Change Day, Bern (CH), April 20th.
- **Fonti, P.**, Rigling, A., Cherubini, P., Biging, G. (2004). Stand dynamics and competition processes in abandoned chestnut coppices in Southern Switzerland. Eurodendro 2004, Rendsburg (D) September 15th – September 19th.
- **Fonti, P.**, Krebs, P., Conedera, M. (2004). Potentialities, difficulties and limits in reconstructing giant chestnut ring width chronologies. Trace 2004, Birmensdorf (CH) April 22nd – April 24th.
- Garcia Gonzales, I., **Fonti, P.** (2003). "Dendroecological analysis of earlywood vessel chronologies of chestnut (*Castanea sativa* Mill.) from the Southern slope of the Swiss Alps". Eurodendro 2003, Conference of the European Working Group for Dendrochronology, Obergurgl, Tyrol, Austria, September 10-14, 2003.
- **Fonti, P.**, Macchioni, N., Thibaut, B., Sell, J. (2003). "Biomechanical adaptation of the wood structure of European chestnut to growth stresses". 4th International Plant Biomechanics Conference, East Lansing, 20-25 July 2003.
- **Fonti, P.**, Bräker, O., Zingg, A. (2002). "Dynamic reconstructions of an uneven-aged beech-spruce stand using dendrochronological and inventory data. 6th International Conference on Dendrochronology: Dendrochronology, Environmental change and human history, Québec City, Canada, 22-27 August 2002.
- **Fonti, P.** (2001). "Influence of large earlywood vessels on the development of ring shake". Tree rings and people. International conference on the future of dendrochronology, Davos, 22-26 September 2001.

E) Book chapters

- Krebs, P.; **Fonti, P.**; Conedera, M. (2007): Nel Moesano alcuni fra i lariceti più vecchi d'Europa. In: Santi, C. (ed). Alle Pendici del Piz Pombi, Tipografia Menghini SA.

F) Others

- Gamboni, T. (Schweizer Fernsehen, TSI, Eta Beta, 13 novembre), 2005: Gli alberi secolari: il loro legno racconta la nostra storia. - Breve documentario sulle ricerche dendrocronologiche del WSL al Sud delle Alpi sui castagni monumentali e sui larici del limite superiore del bosco (**Fonti, P.**; Krebs, P.), 11 min.
- Krebs, P.; Conedera, M.; **Fonti, P.**; 2004-2005: Inventar der Riesenkastanien im Tessin / Inventaire des châtaigniers géants au Tessin / Inventario dei castagni monumentali ticinesi. Sito internet (<http://www.wsl.ch/kastanien/welcome-it.ehtml>) dedicato ai castagni monumentali, con documento pdf scaricabile di 17 pp.
- **Fonti, P.** (2002). "Investigations into ring shake of chestnut". Dissertation n° 14732 at the Swiss federal institute of technology Zürich, pp. 103.
- **Fonti, P.**, (1997). "Studio delle correlazioni tra alcune caratteristiche del soprassuolo e dei polloni di castagno (*Castanea sativa* Mill.) con l'incidenza e la distribuzione della cipollatura in un ceduo a Novaggio, Ticino". Lavoro di diploma, Politecnico federale di Zurigo, pp. 88.

Teaching and Mentoring

A) Supervision of Master students

- 2009: **Torben Luebbe**, Institute of Geocology, University of Potsdam, Germany. Temporal and spatial reconstruction of the competitive power of chestnut coppice forests in Ticino.
- 2008: **Lea Moser**, Institute of Geography, University of Bern, Switzerland. Intra-annual tree growth along an altitudinal gradient in the Loetschental, Switzerland.
- 2008: **Elodie Blanchard**, Universite de Bordeaux 1. Effect of river discharge on early wood vessel area of oak (*Quercus robur* L.).
- 2008: **Andreas Obrecht**, Geographisches Institut Universitaet Bern. Wood anatomy and phenology: Vessel formation of beech oak and cherry trees in relation to phenological observation.
- 2006: **Corinna Beffa**, Environmental Science Department, ETH Zürich. Successional patterns and population development in fragmented *Cistus salviifolius* stands on southern slopes of the Swiss Alps
- 2006: **Sarah Brugger**, Geographischen Institut, Universität Zürich. Effekte eines Waldbrandes: dendrochronologische Analyse nach einem experimentelle Brand auf der Alpensuedseite.
- 2006: **Juliane Vogt**, Institute of Geocology, University of Potsdam, Germany. Temporal and spatial dynamic of stool uprooting in abandoned chestnut coppice forests.

B) Guided internships

- 2009: **Lucia de Soto Suarez**, University of Valladolid, Spain.
- 2006: **Natalie Solomonoff**, University of Berkeley, California, USA.
- 2008: **Danielle Fuchs**, University of Berkeley, California, USA.

C) Teaching

- 2008: teaching at the **Dendrofieldweek in Ferden, Loetschental**
- 2007: teaching at the **Dendrofieldweek in Wiler, Loetschental**.
- 2007: teaching at the **Palaeoecology fieldweek in Monte Carasso, Ticino**.
- 2006: teaching at the **Palaeoecology fieldweek in Monte Carasso, Ticino**.