

Christophe Bontemps

Econometrics, Data Visualization and Computational Science

Teacher (Data Visualization, Machine Learning, Big Data)
E-learning designer and facilitator (Data Science)

National Research Institute for Agriculture, Food and Environment
(INRAe¹)



(Updated June 2022)



Address

Toulouse School of Economics
1, Esplanade de l'Université
31080 Toulouse Cedex 06
FRANCE

christophe.bontemps@inrae.fr

<https://www.tse-fr.eu/fr/people/christophe-bontemps>

Position – (On leave since June 2020)

June 2020 – : Statistician Lecturer for the United Nation Economic and Social Commission for Asia and the Pacific (ESCAP) at the Statistical Institute for Asia and the Pacific (SIAP) Tokyo, JAPAN.

January 2008 – : Senior research engineer in econometrics at the Toulouse School of Economics (INRA) within the “Food Economics” research group.

January 2011- March 2012: Manager of the TSE computing and IT center or *Pôle Informatique Global* - PIG-TSE (9 people).

2001-2008 : Econometrician at the Economic Department of French National Institute for Agricultural Research (INRA).

1998-2001 : Econometrician and IT manager at the National Institute of Agronomic Research (INRA) at the LEERNA² research lab at the University of Toulouse.

1997: Scientific consulting for the MIDIVAL society during 3 month. Working on “Airplanes trajectory forecast” for the French Civil Aviation in Toulouse.

1996-1997: Associate Researcher at the Global Optimization Laboratory (LOG), CENA-ENAC Toulouse

1996: Invited fellow at the European University Institute, Firenze Italy (3 month)

1994-1996: Research assistant at the GREMAQ, University of Social Sciences, Toulouse.

¹ Previously known as INRA (Institut National de la Recherche Agronomique).

²Laboratoire d'Economie de l'Environnement, et des Ressources Naturelles, re-named LERNA.

Education

1996-1997: M. S. (DEA) in Computer Science and Applied Mathematics at the « Ecole Nationale Supérieure d'Electronique d'Electrotechnique, d'Informatique et d'Hydraulique et des Télécommunications (ENSEEIH) » in Toulouse.

1992-95: PhD in Applied Mathematics at the GREMAQ, University of Social Sciences, Toulouse.

Advisor Jean-Pierre Florens.

Jury : Eric Renault (president), Jean-Pierre Florens, Jean-François Richard (referee), Michel Delecroix (referee), Anestis Antoniadis.

1990-1991: M. S. (DEA) in Economics and Econometrics at the University of Social Sciences, Toulouse.

1989-1990: Master (maîtrise) in Statistics and Applied Mathematics at the University Paul Sabatier, Toulouse.

1988-1989: Master (maîtrise) in Pure Mathematics at the University Paul Sabatier, Toulouse.

Published articles

2021

“Do Risk Preferences Really Matter? The Case of Pesticide Use” with Douadia Bougherara & Céline Nauges, in [Environmental Modeling and Assessment](#), vol. 26, n° 4, August 2021, p. 609–630. <https://doi.org/10.1007/s10666-021-09756-8>

“Toward a FAIR Reproducible Research” with Valérie Orozco, in: Daouia A., Ruiz-Gazen A. (eds) [Advances in Contemporary Statistics and Econometrics](#). Springer, Cham. https://doi.org/10.1007/978-3-030-73249-3_30

2020

« How To Make a Pie : Reproducible Research for Empirical Economics and Econometrics » with Orozco, V, Maigné, E., Pigué, V., Hofstetter, A., Lacroix, A., Levert, F. and Rousselle, J.-M. in [Journal of Economic Surveys](#), 34: 1134-1169. <https://doi.org/10.1111/joes.12389>

2016

« The Impact of Perceptions in Averting-decision Models: An Application of the Special Regressor Method to Drinking Water Choices » with Celine Nauges, [American Journal of Agricultural Economics](#), <https://doi.org/10.1093/ajae/aav046>

2014

« La productivité de l'agro-alimentaire français de 1996 à 2006 » with Élise Maigné and Vincent Réquillart (2014), in [Economie et Prévision](#).

2013

« *Quality labels and firm survival: some first empirical evidence* » with Zohra Bouamra-Mechemache and Michel Simioni (2012), [European Review of Agricultural Economics.](#); doi: 10.1093/erae/jbs034. ERAE 2013 Editor's choice.

2009

« *Carafe ou bouteille ? Le rôle de la qualité de l'environnement dans la décision du consommateur* » with Céline Nauges, (2009) N° 188/2 pp. 61-79 in [Economie et Prévision.](#)

2008

« *Encompassing in regression models : Parametric and non-parametric procedures* » with Jean-Pierre Florens and Jean-François Richard, (2008) [Oxford Bulletin of Economics and Statistics](#), (70), pp 751-780. Doi: 10.1111/j.1468-0084.2008.00529.x.

« *Encompassing: Concepts and Implementation* » with Grayham Mizon, (2008) [Oxford Bulletin of Economics and Statistics](#), (70), pp. 721--750. Doi: 10.1111/j.1468-0084.2008.00528.x

« *Semiparametric Hedonic Price Models: Assessing the Effects of Agricultural Nonpoint Source Pollution* » with Michel Simioni and Yves Surry (2008), [Journal of Applied Econometrics](#),(23), pp: 825–842 .

« *Private Labels, National Brands and Food Prices* » with Valérie Orozco & Vincent Réquillart, (2008) [Review of Industrial Organization.](#), Volume 33 (1) , pp.1-22.
DOI 10.1007/s11151-008-9176-x

2005 « *Price Effects of Private Labels Development* » with Valérie Orozco, Vincent Réquillart & Audrey Trévisiol, (2005) Vol. 3: No. 1, [Journal of Agricultural & Food Industrial Organization.](#)

2003 « *Estimation de la demande en eau d'irrigation sous incertitude* » with S. Couture and P. Favard, (2003) in “[Economie rurale](#)” ,N° 276 pp 17-24.

2002 « *Irrigation water demand for the decision maker* » with S. Couture (2002) in “[Environment and Development Economics](#)” Volume 7, N° 4, pp 643-657.

2001 « *Dynamics and uncertainty in irrigation management* » with S. Couture (2001) in “[Economie et Sociologie Rurales](#)” N° 55-56

Books and Translations

2019 : Translation in French of “*The Cartoon Introduction to Calculus* » by Yoram Bauman & Grady Klein (“*Les mathématiques en BD: L’analyse*”, Eyrolles)
→ *With a foreword by Nobel Prize Jean Tirole.*



2015 : Translation in French of “*A cartoon introduction to Climate Change* » by Yoram Bauman & Grady Klein (“*Le changement climatique en BD*”, Eyrolles)
→ *With a foreword by Nobel Prize Jean Tirole.*



2014 : Translation in French of “A cartoon introduction to economics :
Macroeconomics » by Yoram Bauman & Grady Klein (“L’économie en BD :
La macro économie” , Eyrolles)
→ With a foreword by Nobel Prize **Jean Tirole**.



2012 : Translation in French of “A cartoon introduction to economics » by Yoram
Bauman & Grady Klein (“L’économie en BD”, Eyrolles)
→ With a foreword by (future) Nobel Prize **Jean Tirole**.
→ More than **5000 copies sold** (2020).



2008 : “Stata par la pratique : Statistiques, graphiques et éléments de
programmation”, avec Eric Cahuzac (**2008**), **StataPress** Edition, 254 pages.
→ more than **1500 copies sold** (up to 2020).



Articles in non-refereed journals & books chapters

2021 « Appréhender la visualisation de données : la rhétorique des pics et des courbes » –
[Bulletin bibliothèques de France](#) - L'année des bibliothèques ISBN : 978-2-492897-00-9

2014 « Sweave en parallèle ou Comment j’ai réussi à produire 14 rapports différents en
faisant fonctionner les cœurs de mon ordinateur plutôt que ma pauvre tête.. » in [Cahier des
Techniques de l'INRA](#), 83 (3), 1-13.

2013 « Gestion de serveurs de calcul avec PowerShell » with Olivier de Mouzon, in [Cahier
des Techniques de l'INRA](#), 78 (1), 1-14.

2012 « Démarche qualité appliquée à la gestion et à la préparation des données » with R.
Chartier, E. Cahuzac et C. Gendre; V. Orozco; C. Boizot-Szantai and N. Guinet, in [Démarche
Qualité du Département](#) SAE2, INRA.

2010 “[To drink or not to drink \(tap water\) ?](#) ” with Céline Nauges in **INRA Sciences
Sociales** 2010/2.

2005 «Is the irrigation water demand really convex ? » with Stéphane Couture and Pascal
Favard, (**2005**) in the book edited by Phoebe Koundouri "Econometrics Informing
Natural Ressources Management", **Edward-Elgar Publishers**.

2003 « *Congruence and Encompassing* » with Grayham Mizon, (**2003**) In Stigum,B.(ed.),
*Econometrics and the Philosophy of Economics: Theory-Data Confrontations in
Economics*. Princeton: **Princeton University Press**.

1998 « *Pollutions diffuses et ressources renouvelables* » with J.P. Amigues and A. Thomas
(**1998**). in INRA-ESR " Gestion des pollutions, protection du consommateur et
compétitivité" 175p. 1998/10, pp49-80.

Working papers & unpublished material

« *Do Risk Preferences Really Matter? The Case of Pesticide Use in Agriculture* », with Christophe Bontemps, Douadia Bougherara et Céline Nauges TSE Working Paper, [n° 20-1095](#), May 2020.

→ Published Environmental Modeling and Assessment 2021

“*How To Make A Pie: Reproducible Research for Empirical Economics & Econometrics*”, with Valérie Orozco, Elise Maigné, V. Piguet, A. Hofstetter, Anne Lacroix, F. Levert et J.M Rousselle, TSE Working Paper, [n° 18-933](#), July 2018.

→ Published JES 2020

« *Endogenous Variables in Binary Choice Models: Some Insights for Practitioners* », with [Céline Nauges](#). TSE working paper , [n° 17-855](#), October 2017

“*The impact of perceptions in averting-decision models: An application of the special regressor method to drinking water choices*” with [Céline Nauges](#). TSE working paper [n°14-357](#).

→ Published AJAE 2015

“*Nonparametric detection of patterns of technological change: An application to food industry*” with C. Nauges, V. Réquillart et M. Simioni. TSE working paper [n° 12-275](#).

This paper has also circulated under slightly different versions:

Food Safety Regulation and Firm Productivity: Evidence from the French Food Industry” (2012)

“*Technical Change vs Efficiency Change: How do Food Industries Evolve Over Time?*” (2010).

«*Productivity Growth, Technical Efficiency, and Resource Allocation in the French Food Industry*” (2013) with Michel Simioni.

→ Revise and resubmit JPA 2014

« *Les gains de productivité de l'agro-alimentaire Français de 1996 à 2006* » (2010) avec Elise Maigné et Vincent Réquillart (ANR-08-BLAN-0106-01)

→ Published in Economie et Prévision 2014

« *Nonparametric vs parametric binary choice models: An empirical investigation*» (2009) with [Jeffrey S. Racine](#) and M. Simioni. TSE working paper [n°09-126](#).

“*To drink or not to drink (tap water)? The impact of environmental quality on consumer's choices*” (2006) with Céline Nauges

“*Allocation optimale de l'eau d'irrigation au cours d'une saison : approche par la méthode de Monte-Carlo*” with Stéphane Couture and J. P. Terreaux, Mimeo (2001)

« *Une méthode d'estimation de la fonction de demande en eau d'irrigation* » with Stéphane Couture. Mimeo (1999).

« *Utilisation d'un modèle agro-économique pour la gestion de l'irrigation dans un contexte de rareté* » with Stéphane Couture. Mimeo (1999).

« *Principes mathématiques et utilisation des algorithmes génétiques* », C. Bontemps, Mimeo, (2000)

Seminars and conferences

- *Invited seminar SMART-LERECO, "How to Lie with graphics?"*, (Rennes, France, 2019)
- *Keynote address (with V. Orozco) "How to make a Pie" at the Workshop "Reproducible Research and Modern Data Analysis: Concepts, Skills and Tools"*, (Porto, Portugal, 2019)
- *Invited seminar Ecole Normale Supérieure, "How to Lie with Graphics?"*, (ENS Lyon, 2019)
- *Conference on Education Economics (Budapest, Hungary, 2018)*
- *International Association for Applied Econometrics (Sapporo, Japan, 2017)*
- *Developments in Economics Education Conference, (London, UK, 2017)*
- *Agricultural & Applied Economics Association annual meeting (San Francisco, USA, 2015)*
- *XIII European Workshop on Efficiency and Productivity Analysis (Helsinki, Finland, 2013)*
- *Invited conference at the Southwestern University of Finance and Economics, (Chengdu, China, 2012),*
- *European Association of Environment and Resource Economist (EAERE, Prague, 2012),*
- *XII European Workshop on Efficiency and Productivity Analysis (Verona, Italy, 2011),*
- *Agricultural & Applied Economics Association meeting 2009 AAEA & ACCI Joint Annual Meeting, (Milwaukee, USA, 2009),*
- *Third World Congress of Environmental and Resources Economists (Kyoto, Japan 2006),*
- *Annual meeting of EAAE congress (Copenhagen, Denmark, 2006),*
- *Agricultural & Applied Economics Association (Providence USA, 2005)*
- *European Association of Environmental and Resource Economists (Budapest, Hungary, 2004).*
- *Agricultural & Applied Economics Association (Chicago, USA, 2001)*
- *7th world congress Congress of the Econometric Societ (Tokyo, Japan, 1995)*
- *Econometric Society: European Meeting, (Uppsala, Sweden, 1993)*

Referee activities

Referee for :

*American Journal of Agricultural Economics (AJAE),
Journal of Applied Econometrics (JAE)
European Journal of Operational Research (EJOR),
European Review of Agricultural Economics (ERAE),
Oxford Bulletin of Economics and Statistics (OxBul),
International Economic Review (IER),
Resource and Energy Economics (REE)
Environment and Development Economics (EDE),
Journal of Agricultural and Applied Economics (JAAE),
Agricultural Economics (AE),
Journal of Agricultural & Food Industrial Organization (JAFIO),
Review of Agricultural, Food and Environmental Studies (RAESTUD-RAFE)
Cahier d'Economie et Sociologies Rurales,*

Conferences organization & networks

useR! 2019 conference, Toulouse, France *July 9-12, 2019*. 1200+ attendees. Member of the local organizing committee (fund raising, communication, IT and network logistic)

5èmes rencontres R, Toulouse, France *June 2016*. 200 attendees. Member of the local organizing committee (IT and network logistic, local arrangement)

5th World Conference of the Spatial Econometrics Association *July 2011*, Toulouse, France.

Cofounder and co-organizer (2008-2012) of the INRA Economic Department Network of Statisticians (Ingé+Stat).

Member of the AERES³ (2011) - Evaluation of two French research centers in Dijon.

Teaching

Online teaching:

April 2020: “Introduction to Data Visualization”, online teaching in the Econometric Course (PREV) at ENAC, Toulouse (3 hours)

January 2016-March 2019: “Manage your Prices: An Introduction to Pricing Strategy and Revenue Management”, lead professor for this 4-weeks free online course (MOOC) on the [FutureLearn platform](#) in association with ENAC (J. Reynal, N. Lenoir) and the online simulation platform *Economic Games* (N. Gruyer). More than 10 000 learners joined the course.

In-class teaching: *In English. All, at least, at the Master2 level.*

2019-2020: “Introduction to Data Visualization”, in the Master 2 “Econometrics and Empirical Econometrics” at Toulouse School of Economics (6 hours)

2018-2019: "Dynamic Data Visualization", in

- the Master 2 International Economic and Business management, Università di Vicenza, Italy (15 hours)
- The MSc in Economics, Università degli Studi di Verona, Italy (12 hours).

2018: “Airline Economics: Demand, pricing & revenue management, regulation” in the Aerospace MBA organized by Toulouse Business School (TBS) and the Indian Institute of Management Bangalore (IIMB). Bangalore, India (15hours).

2018-20: "Principes économiques du Revenue management", in the master 2 course « Revenue Management », Rennes University (15 hours).

³ Now known as [HCERES](#)

- 2016-18-19:** "Introduction to Data Visualization », for the Honk-Kong University (HKU) visiting students at ENSAI, Rennes. (15 hours)
- 2017-2020:** "Airline Simulation" with the airECONsim platform (Economics games), in the MBA Aerospace, Toulouse Business School. Toulouse (15hours).
- 2015-2020:** "Data Visualization for Data Science », in the international master "[Smart Data](#)" at ENSAI (Rennes - 12 hours).
- 2013-19:** "Revenue management" in the master 2 course "Marketing" at ENSAI, (Rennes - 15 hours).
- 2013-15:** "Revenue management" in the master 2 course "Energy, Markets and Organisations" (EMO) at Toulouse School of Economics (6 hours).
- 2003, 2005, 2006, 2009, 2010, 2012, 2013:** « Demand in air transportation, Traffic Forecast and Yield Management » Civil Chinese Engineers at the Civil Aviation University of China (Tianjin, *China* - 15hours)
- 2008, 2010:** « Demand in air transportation, Traffic Forecast and Yield Management » in the Aviation MBA ENAC and LUISS Business school⁴ (Rome, Toulouse) (12 hours).
- 2006-10:** « Price discrimination & Revenue management », IENAC engineers, Ecole Nationale de L'Aviation Civile⁵ Toulouse (12h)
- « Yield Management » in the Master of Aeronautical Operations and Air Traffic management at [ENAC](#) (3 hours).
- « Yield Management » (in French) at the [Ecole Nationale des Ponts et Chaussées](#), (*Paris*). Module "marché des déplacements interrégionaux et internationaux de voyageurs", (3 hours).
- 2009:** « Approche Robuste en Econométrie», (in French) with M. Simioni, at the Ecole Nationale de la Statistique et l'Analyse de l'Information, (Rennes) for the INSEE engineers (12h).
- 2008:** « Demand in air transportation, Traffic Forecast and Yield Management » in the [Aviation MBA](#) at the LUISS Business School (*Rome, Italy*)⁵ (12+12 hours).
- 2006:** « Pricing and Yield Management » (in French) at the [ENPC](#) ([Paris](#))(module "marché des déplacements interrégionaux et internationaux de voyageurs") (3 hours).
- 2005:** « Pricing and Yield Management » (in French) at the [ENPC](#) ([Paris](#))(module "marché des déplacements interrégionaux et internationaux de voyageurs") (3 hours).
- 2004:** « La demande de transport et les prévisions » at the [ENPC](#) (module "marché des déplacements interrégionaux et internationaux de voyageurs") (3 hours).

⁴ [ENAC](#) : Ecole Nationale de L'Aviation Civile

⁵ [ENAC](#) : Ecole Nationale de L'Aviation Civile

2000: « *Optimisation globale versus optimisation locale* » (in French) , Séminaire destiné aux doctorants et chercheurs de l'unité ESR Toulouse (2x3 hours) en 2000.

1999: « *Initiation à la Statistique non paramétrique* » (in French) , Séminaire destiné aux doctorants et chercheurs de l'unité ESR Toulouse (3 hours) en 1999.

1996-1997: (in French)

« *Econométrie* » ; Cours dispensé aux ingénieurs 2^{ème} année de l'ENAC⁵ (30 hours) en 1996 et 1997.

« *Analyse de données et statistique* » ; Cours dispensé aux Ingénieurs du corps de l'Aviation Civile (IAC) à l'ENAC (15 hours) en 1996 et 1997.

« *Probabilité et Statistique* » ; Cours dispensé aux 2^{èmes} années du DEUG MASS à l'Université des Sciences Sociales de Toulouse. (15h cours + 24h TD) en 1996.

1993-1996 (in French)

« *Topologie, Mesure, Intégration* » ; TD de Maîtrise de Sciences Economiques à l'Université des Sciences Sociales de Toulouse. (32h) en 1993, 1994, 1995 et 1996.

«*Equations différentielles et Optimisation*» ; TD de Maîtrise de Sciences Economiques à l'Université des Sciences Sociales de Toulouse. (32h) en 1993, 1994 et 1995.

Workshops as learner

“ Statistics on Networks” (Analyse statistique des réseaux), November **2018** Paris, with Pierre Latouche and Catherine Matias (CNRS).

“ Theory and Practice of Efficiency and Productivity Measurement” , June **2013**. PhD Workshop with S. Kumbhakar and C. Parmeter. University of Stavanger, Norway.

“Spatial Econometrics Workshop” March **2010**, (R. Bivand, J Lesage, C. Thomas) Toulouse.

« *Production Frontiers* », January **2009**. Course (W. Greene) organized by the CEMMAP at UCL (London).

“Nonparametric econometrics” , June **2008**, Course (J. Racine) organized by SLU at Uppsala (Sweden).

“ *Discrete choice analysis*” , January **2005**. Course (W. Greene) organized by the CEMMAP at UCL (London).

“ *Semiparametric Analysis of Qualitative Response models*” , April-December **2002**, workshop co-organized with Pascal Lavergne and Michel Simioni.

“ *Treatment effects*” Janvier - Mai 2001, cours de DEEQA de l'école doctorale en science économique de Toulouse.

“ Decision support tools and models for agricultural resource management” 12-22 octobre **1999** (Ankara, Turquie). Organisé par le département d'économie du METU⁶, CIHEAM - IAMM⁷ et Commission Européenne (DG1)

Others

Members of the “Brenus Analytics” Scientific Council (2019)

Cofounder and co-organizer of Toulouse Dataviz Meetup (>1700 members) since 2017.

- 55 Meetups organized,
- 5 *Hackaviz* (dataviz contest) organized since 2018.
-

Sauveteur secouriste du travail (SST) at the INRA since 1999.

Quality manager of my lab at INRA 1999-2016.

Other others (in French)

Vice-champion de France du **4x200m** (Athlétisme), avec le S.A. Condom en **1987** et **1988**

Recordman des Pyrénées du **4x200m** (Athlétisme) avec le S.A. Condom depuis **1988** . Record établi à 1'24''99 (et jamais battu depuis !)

Vice-champion de France Universitaire du **4x100m** (Athlétisme), en 1985 avec l'Université Paul Sabatier.

⁶ METU : Middle East Technical University, Ankara

⁷ IAMM : Institut Agronomique Méditerranéen de Montpellier