

Pierre Bommel

Born on 03/06/1966
at Suresnes (France)
Married
Father of family: three children

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Modeller and Computer scientist

Speciality: Agent-Based modelling of renewable resources,
Participatory modelling

Professional experience

- **Since 2001: Researcher** at CIRAD – Environment & societies dept., Green Research Unit
 - From 2015: visiting professor at the UCR university of Costa Rica
 - From 2011 to 2014: visiting professor at the PUC university of Rio de Janeiro, Brazil
 - From 2005 to 2011: invited researcher at the University of Brasília, Faculty of Technology.
- **1999 to 2001:**
 - **Research engineer** at Peplum (start-up) for developing multi-agent based software's dedicated to video games on line.
 - **Teacher assistant in computer science**, Montpellier II University and IUT at Nîmes.
- **1998: Engineer assistant** at IRD and INRA; modelling of pastoral dynamics and study of co-viability concept. Coupling MAS and Database.

Qualifications

	<i>Equivalent US levels</i>
2009: Computer science PhD. supervised by prof. J. Ferber - LIRMM. Subject: "Definition of a methodological framework for designing multi-agents models adapted to the renewable resources management". University of Montpellier II	<i>PhD</i>
1999: DESS "Computer science applied to organizations" , directed by prof. Libourel. University of Montpellier II (with honours).	<i>(2nd) Master of Science</i>
1997: DEA "Systems analysis and modelling" . In biology, laboratory of Biometry. University of Lyon 1. (with honours). One year probationary period on a socio-economical model (IRD)	<i>(1st) Master of Science</i>
Jun 1996: Maîtrise in "Biology of Populations and Ecosystems" . University of Paris 6. Laboratory of M. Barbeaux.	<i>Master degrees</i>
September 1995: Licence in "Biology of Organisms" . University of Paris 6	<i>Graduation</i>
1986: Bac C (mathematics) . Rouen, France.	<i>Bachelor</i>

List of professional activities

DEVELOPMENT OF CORMAS

- Cormas is a framework dedicated to the implementation of multi-agent models, with a specificity in the domain of natural-resources management
- Maintaining the Cormas web site (<http://cormas.cirad.fr/>) and management of the Cormas forum.
- Member of the ComMod (Companion Modelling) network (coupling role playing games and ABM)
- Member of the "Participatory Modelling" group of Sesync.

FORMALISING AND MODELLING SUPPORTS IN RECENT PROJECTS

- **FuturAgua** (ANR-Belmont) The objective is to help shape and inform future adaptation choices regarding drought, with an emphasis on building resilience to water scarcity in Costa Rica
- **Ecotera** (ANR) Ecoefficiencies and territorial development in the Brazilian Amazon.

- ❑ **EcoAdapt** (European Union) Water management for local development to reduce vulnerability of human populations to climate change through capacity building, in Chile, Bolivia, Argentina.
- ❑ **Clim-Fabiam** (FRB) Climate changes and Floodplain lake biodiversity in the Amazon Basin: how to cope and help the ecological and economic sustainability.
- ❑ **FloAgri** (European Union): Amazonian Forest and Agriculture (<http://www.floagri.org.br>).

TEACHER IN TRAINING SESSIONS

- ❑ International Training courses: Halle (Germany), Pretoria (South Africa), São Paulo & Brasília (Brazil), Alexandria (Egypt), Wageningen (Nederland), Costa Rica, Uruguay and France.
- ❑ Organizing the International ABM Summer Schools every year, in Montpellier, France
- ❑ Participation in supervising PhD, Masters and trainees

REVIEWER OF JOURNALS AND CONFERENCES

- ❑ Ecology & Society (Resilience Alliance). Journal with 5-Year Impact Factor: 4.644
- ❑ Environmental Modelling & Software (Elsevier). Journal with 5-Year Impact Factor: 4.528
- ❑ Journal of Artificial Societies & Social Simulation. Journal with 5-Year Impact Factor: 1.733
- ❑ International Congress on Environmental Modelling and Software (iEMS)
- ❑ Brazilian Workshop on Social Simulation (BWSS)
- ❑ Journées Francophones des Systèmes Multi-Agents (JFSMA)

Recent publications in refereed ISI journals and international conference proceedings

- Bommel P., 2017. Foreword of Multi-agent-based simulations applied to biological and environmental systems. In D. F. Adamatti (Ed.), Multi-Agent-Based Simulations Applied to Biological and Environmental Systems. IGI Global. Doi:10.4018/978-1-5225-1756-6
- Winkel T, Bommel P, et al. 2016. Panarchy of an indigenous agroecosystem in the globalized market: The quinoa production in the Bolivian Altiplano. *Global Environmental Change* 39: 195–204
- Lavelle, P. Et al., 2016. Unsustainable landscapes of deforested Amazonia: An analysis of the relationships among landscapes and the social, economic and environmental profiles of farms at different ages following deforestation. *Global Environmental Change*, 40: 137–155.
- Bommel P. et al., 2016. Livelihoods of Local Communities in an Amazonian Floodplain Coping with Global Changes. From Role-Playing Games to Hybrid Simulations to Involve Local Stakeholders in Participatory Foresight Study at Territorial Level. *International Environmental Modelling and Software Society*, 8th iEMS Toulouse, France
- Bommel, P., Becu, N., Le Page, C., & Bousquet, F. 2016. Cormas: An Agent-Based Simulation Platform for Coupling Human Decisions with Computerized Dynamics. In T. Kaneda, H. Kanegae, Y. Toyoda, & P. Rizzi (Éd.), *Simulation and Gaming in the Network Society*. Volume 9. Springer Singapore.
- Morales, H., et al. 2015. Use of simulations to enhance knowledge integration and livestock producers' adaptation to variability in the climate in northern Uruguay. *The Rangeland Journal*, 37(4), 425–432.
- Dieguez F, et al. 2014. Virtual experiments using a participatory model to explore interactions between climatic variability and management decisions in extensive grazing systems in the basaltic region of Uruguay. *Agricultural Systems*, 130, 89–104. <http://doi.org/10.1016/j.agsy.2014.07.002>
- Bommel P. et al., 2014. A Further Step Towards Participatory Modelling. Fostering Stakeholder Involvement in Designing Models by Using Executable UML. *Journal of Artificial Societies and Social Simulation* 17 (1) 6. <<http://jasss.soc.surrey.ac.uk/17/1/6.html>>
- Bommel, P et al. 2014. New opportunities for small-scale farmers of the Amazon to strengthen hazards resilience while preserving forests – field experiments combined with agent-based modelling. *Forests under pressure – Local responses to global issues*. IUFRO World Series Volume 32, 83-96.
- Le Page C., Bazile D., Becu N., Bommel P., Bousquet F., Etienne M., Mathevet R., Souchère V., Trébuil G. and Weber J. 2013. Agent-Based Modelling and Simulation Applied to Environmental Management. Pages 499-540 in B. Edmonds and R. Meyer (eds.), *Simulating Social Complexity*. Springer-Verlag Berlin Heidelberg.
- Winkel, T. et al. 2012. The Sustainability of Quinoa Production in Southern Bolivia: from Misrepresentations to Questionable Solutions. *Comments on Jacobsen 2011. J. Agron. Crop Sci.* 197: 390–399.
- Galtier, F., Bousquet, F., Antona, M., Bommel, P., 2012. Markets as communication systems. *Journal of Evolutionary Economics*. Volume 22, 1, January 2012. pp 161-201
- Le Page C., Becu N., Bommel P. and Bousquet F., 2012. Participatory Agent-Based Simulation for Renewable Resource Management: The Role of the Cormas Simulation Platform to Nurture a Community of Practice. *Journal of Artificial Societies and Social Simulation* 15 (1) 10