

Pierre Bommel

Born on March 6, 1966
at Suresnes (France)
Married, father of family: three
children

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CIRAD - Dept. ES
GREEN Research Unit

CATIE, Programa PRAGA
Turrialba – Costa Rica



Modeller and Computer scientist at Cirad. *Speciality:*

- Agent-Based modelling for renewable resource management,
- Participatory modelling and interactive simulation

PROFESSIONAL EXPERIENCES

- **Since 2001: Reseracher at Cirad**, Environment & Societies dept., GREEN Research Unit
 - Since 2019: visiting researcher at CATIE, Costa Rica
 - From 2015 to 2018: visiting professor at UCR – University of Costa Rica.
 - From 2011 to 2014: visiting professor at PUC university, Rio de Janeiro, Brazil, LES computer laboratory
 - From 2005 to 2011: visiting researcher at UNB - University of Brasília - Faculty of Technology, Centre for Sustainable development, CDS
 - From 2001 to 2005: based at Montpellier, UPR Green, CIRAD
- **1999 to 2001:**
 - **Research engineer** at Peplum (start-up) for developing ABM software's dedicated to video games on line.
 - **Assistant Professor in computer science**, Montpellier II University and IUT at Nîmes.
- **1998:**
 - **Engineer assistant** at INRA, modelling of pastoral dynamics; Studies on landscape representations and on spatial aggregates concepts. Coupling MAS and Database.
 - **Engineer assistant** at IRD; coupling multi-agent models and study on the concept of co-viability. Web site on "co-viability".
- **From 1992 to 1996: Supervisor** in various secondary boarding schools.

UNIVERSITY QUALIFICATIONS

- ❑ 2009: **PhD in Computer science**, supervised by prof. J. Ferber – LIRMM UM2. Subject: “*Definition of a methodological framework for designing multi-agents models adapted to the renewable resources management*”. University of Montpellier II
- ❑ 1999: **Master of science in "Computer science applied to organizations"**, directed by prof. Libourel. University of Montpellier II (with honours).
- ❑ 1997: **Master of science in "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)
- ❑ 1996: **Master degree in "Biology of Populations and Ecosystems"**. University of Paris 6. Ecology laboratory of prof. Barbeaux. (with honours) .
- ❑ 1995: **Licence in "Biology of Organisms"**. University of Paris 6 .
- ❑ 1992: **BSc in "Natural and life sciences"**. University of Mt St Aignan (Rouen). (with honours).
- ❑ 1986 to 1988: Veterinary preparatory. Sub-admission to the **veterinary** entrance examination
- ❑ 1986: **Bachelor in mathematics**. Rouen.

STUDENT SUPERVISION

RESEARCH SUPERVISION

PARTICIPATION IN THE SUPERVISION OF THESES

- ❑ **Paulo Pimenta** (Brazilian) – Director: J.P. Müller
 - Subject: « *Application of model-driven engineering to multi-agent systems: a language to model behaviors of reactive agents* ».
 - University of Montpellier 2, defended on 5 Jan. 2017
 - Supervisor ratio: 40%, orientation, thesis committee, writing and jury.
 - Publications: Pimenta P., Bommel P., Müller J.P. Participatory modelling of social-environmental system: A review of visual programming languages to improve collective design. Not yet submitted
 - Current situation: developer at Full Stack. Former project manager at GEOMAP-IMAGIS, a company specialized in GIS.
- ❑ **Manuela Vieira Pak** (Colombian) - Director: J.F. Tourrand
 - Title: « *Participatory accompaniment as a tool to support reflection on agropastoral land use and its consequences on the sustainability of the system: The case of quinoa expansion on the Altiplano* ».
 - AgroParisTech - ABIES, defended on 17 dec. 2012.

- Supervisor ratio: 70%, orientation, field coaching, thesis committee, writing and jury.
- Current situation: Independent consultant associated with Lisode, a cooperative company specialized in consultation engineering, France. Manuela is currently developing partnerships between Lisode and organizations in Latin America.
- Publications: (2016m [IF]; 2015h; 2014b; 2013f; 2010g; 2010d [IF])

My investment in the following theses is less significant.

- **Pier Giovanni Taranti** (Brazilian) - Director: Carlos Lucena.
 - Title: "*Controlando Atrasos em Tempo de Simulação. Uma abordagem para MABS*"
 - University PUC Rio – Brazil, defended on 27 march 2013
 - Supervisor ratio: 10%, writing papers, thesis committee and jury.
 - Current situation: Technical Advisor to the Director General at IMSO - International Mobile Satellite Organization, London.
 - Publications: (2012m)
- **Sophie Plassin** - Director: J.F. Tourrand
 - Title: « *Natural resource management and spatial organization in livestock farms in the Eastern Amazon Changes and prospects for eco-efficient landscapes in a context of agrarian transition* ».
 - Thesis defended at AgroParisTech, 21/12/2018.
 - Supervisor ratio: 10%, thesis committee, modelling support
 - Current situation: postdoc in the USA
- **Amaury Burlamaqui Bendahan** (Brazilian) - Director: J.F. Tourrand
 - Title: « *Integração agricultura-pecuária-floresta em Roraima, Amazônia brasileira - Integrated Crop - Livestock - Tree System in Roraima State, Brazilian Amazon* ».
 - AgroParisTech - ABIES – Defended on 14/12/2015.
 - Supervisor ratio: 10%, writing papers, modelling support
 - Current situation: Researcher at Embrapa Roraima
 - Publications: (2014c; 2012n; 2013d; 2008d)
- **Pedro Arbeletche Favat** (Uruguay) - Director: Moisés Hidalgo
 - Title: « *Análisis de la gestión empresarial de la agricultura desde la perspectiva de la economía industrial: el caso de uruguay* ».

- University of Alicante, Spain – Defended on 01/02/2016.
- Current situation: Professor at UdelaR, Uruguay
- Supervisor ratio: 10%, modelling support, writing papers
- Publications: (2010f [IF]; 2008c ; 2007f)
- **Tienne Barbosa** (Brazilian) - Director: J.F. Tourrand
 - Title: « Manpower in the agro-ecological intensification of Amazonian family systems ».
 - AgroParisTech - ABIES and University of Brasília - CDS - Brazil. Not yet defended.
 - Supervisor ratio: 10%, modelling support, paper writing
 - Publications: (2014c; 2013d; 2010d [IF])
- **Paulo Celso** (Brazilian) - Director: Antonio César Pinho Brasil Júnior
 - Title: « *Amazônia dos Rios: modelagem participativa da gestão do uso do solo para o empoderamento local - Amazonie des fleuves : modélisation participative de la gestion de l'utilisation du sol pour le développement local* ».
 - University of Brasilia - CDS – Defended on 5 april 2008.
 - Current situation: Professor at UnB, Brasilia
 - Supervisor ratio: 20%, training and modelling support, field coaching.
 - Publications: (2007a)
- **Hermès Morales** (Uruguay) - Director: J.F. Tourrand
 - Title: « *Evaluation of the consequences of strategic decisions in extensive livestock farming in Uruguay. An approach using multi-agent systems* ».
 - AgroParisTech - ABIES. Defended on 12/10/2007.
 - Current situation: Researcher at Instituto Plan Agropecuario, Uruguay
 - Supervisor ratio: 30%, training and modelling support, paper writing, comity
 - Publications: (2015e [IF] ; 2014a [IF] ; 2014^e [IF] ; 2012a ; 2012b ; 2012c ; 2012d ; 2012e ; 2012f; 2012g ; 2012h ; 2011c ; 2011d ; 2010e ; 2010f ; 2010h ; 2010k ; 2008c ; 2008e ; 2007f ; 2006c ; 2006d ; 2005f ; 2005g ; 2004b)
- **Thierry Bonaudo** - Director: J.F. Tourrand
 - Title: « *Environmental management on a pioneering Amazon front* ».
 - AgroParisTech - ABIES – France. Defended on 15/12/2005.
 - Current situation: Professor at AgroParisTech,
 - Supervisor ratio: 30%, modelling support, paper writing
 - Publications: (2010b ; 2010d ; [IF] ; 2010l ; 2005e)

- **Warong Naivinit** (Thailand) - Director: G. Trébuil
 - Title: « *Companion Modelling to analyze the land/water use and labour migration interactions in Lam Dome Yai Watershed, Lower Northeast Thailand* ».
 - Joint University of Paris Ouest Nanterre - La Défense and University of Chulalongkorn (Thailand). Defended on 30/04/2009.
 - Current situation: Professor at Ubon Ratchathani University, Thailand.
 - Supervisor ratio: 5%, modelling support
 - Publications: (2009b ; 2005b)
- **Panomsak Promburom** (Thailand), Director: F. Bousquet
 - Title: « *Companion modeling & watershed management in Northern Thailand: The importance of local networks* ».
 - University of Lyon 1. Defended on 26/05/2010.
 - Current situation: Professor at Chiang Mai University, Thailand.
 - Supervisor ratio: 5%, modelling support
 - Publications: (2009b ; 2005a)
- **Louise Erasmus** (South Africa) - Director: Albert van Jaarsveld
 - Title: “*Toward national and regional sustainability in South Africa: A modelling approach*”.
 - University of Pretoria, South Africa.
 - Current situation: Died.
 - Supervisor ratio: 10%, modelling support
 - Publications: (2008b [IF] ; 2003b ; 2002f)
- **Vincent Porphyre** - Director: E. Cardinale
 - Title: “*How to reconcile the development of pig farming systems and the improvement of animal product quality: Multi-agent modeling applied to the pig farming sector in Madagascar for the design and evaluation of scenarios to control cysticercosis*”
 - University of la Réunion. On going.
 - Current situation: Researcher at Cirad.
 - Supervisor ratio: 5%, modelling support
- **Ricardo Morataya** (Costa Rica) - Director: Oscar Rojas (TEC).
 - University UNA, Costa Rica. On going.

- Current situation: Professor at UNA.
- Supervisor ratio: 10%, modelling support, paper writing, comity.
- Publications: (2016b ; 2016j)

SETUP OF THESIS

- **Sergio Vilchez Mendoza** (Nicaragua). Setup of his thesis at university of Montpellier 2, in 2019. Director: Christian Cilas.
 - Title: « *Dinámica espacio-temporal de la broca del café (Hypothenemus hampei): proponiendo una herramienta de simulación para la planificación de estrategias de manejo y control a múltiples escalas espaciales* ». The thesis will officially start in September 2019.
 - Current situation: biometric researcher at CATIE.
- **Victor Rodríguez Lizano**, (Costa Rica) - Director: Mercedes Montero Vega
 - Title: “*La sucesión familiar hortícola explicada a través de la influencia de variables socioeconómicas y del proceso de integración generacional. Zarcero, Costa Rica*”
 - Thesis started in 2018, University of UCR, Costa Rica.
 - Supervisor ratio: 10%, setup and participation to the comity.
 - Current situation: Professor at UCR.

SETUP AND POSTDOC SUPERVISION

- **Gustavo Melo** (Brazilian), 03/2014 - 02/2016
 - Title of the postDoc : “*Modelagem coletiva e simulacao interativa de Sistema Multi-Agentes (SMA) em apoio a gestao dos recursos naturais*”.
 - UFRJ University of Rio de Janeiro - CNPq scholarship - Brazil. Gustavo obtained a doctorate from the UFRJ in Social Psychology.
 - Supervisor ratio: 90%, setting up the grant application, orientation, field support, courses, writing articles. 2014-2016 (2 years)
 - Publications: (2016l ; 2015d ; 2014d)
 - Current situation: Consultant and assistant professor at the Department of Social Psychologies of the UFRJ.

SUPERVISION OF IUT, MASTERS AND ENGINEERS INTERNSHIPS

- **Michelle Cevallos Cevallos**, Master « *Economía, Desarrollo y Cambio Climático* » at CATIE (on going). 2018-2019.

Title: « *Diseño de la Red Regional de Alerta Temprana para la roya del café* ». Member of the comity.

- **Andrés Madrid Arrieta**, Master « Práctica del desarrollo » at CATIE, 2018-2019.

Title: « *Diseño participativo de un prototipo de herramienta digital/TIC para el apoyo a productores de café en Turrialba, Costa Rica* ». Membre du comité (en cours).

- **Mélissa Gillet** – Professional degree in "Environmental engineering and sustainable development", Caen Normandy University.

Title: « *Improving decision-making tools and scientific popularization on water resources, Guanacaste, Costa Rica* ». 4 months in 2017

Supervisor ratio: Supervisor ratio: 90%, internship supervisor, field coaching, courses, jury.

- **Jigyasa Grover** – Delhi Technological University – India.

Title: « *Visualization and manipulation of located entities for interactive simulation of ABM* ». 1 month in 2017

Supervisor ratio: 50%, Responsible of the internship.

Publications: (2017a)

- **Camille Belmin** – AgroParisTech. Final internship in engineering at the Institute of Life Sciences and Industries and Environment.

Title: "Understanding and supporting the dynamics of water resource use. Implementation of a companion modelling approach in Guanacaste, Costa Rica". 6 months in 2016

Supervisor ratio: 90%, Responsible of the internship, field coaching, writing, modelling support.

Publications: (2016b ; 2016j ; 2015c)

- **Peter Uhnak** - Czech Technical University, Prague - Czech Republic.

Title: « *Designing a UML class diagram editor for the implementation of agent-based models* » - 4 months in 2015

Supervisor ratio: 70% Responsible of the internship

Publications: (2016i)

- **Eva Haentjens** - Final internship of ISTOM, Higher School of International Agro-Development.

Title: "*Transition towards sustainable management of natural resources in the floodplains of the Amazon basin*" - 6 months in 2014

Supervisor ratio: 80%, Responsible of the internship, field coaching, courses, writing, support for role-playing activities.

Publications: (2016l ; 2015d)

□ **Joseph Hurand** - Esalq, Brazil and engineer at AgroParisTech.

Title: « *Multi-agent modeling and pioneering deforestation dynamics in the Amazon* ». 6 months in 2013.

Supervisor ratio: 30%, course, modelling support

□ **Jorge Corral** – Master in computer science at UDELAR, Uruguay.

Title: « *Agent-based methodology for developing agroecosystems' simulations* ». 2011

Supervisor ratio: 40%, modelling support, courses, writing, Master's jury.

Publications: (2015e [IF] ; 2014e [IF] ; 2012b ; 2012c ; 2012d ; 2012e ; 2012f ; 2012g ; 2011d ; 2010f ; 2008c ; 2007f)

□ **Bruno Bonté** – Master's degree in Artificial Intelligence and Decision Research. University of Paris 6.

Title: "Anticipation in multi-agent systems for modelling complex social phenomena. Application to the modelling of Amazonian pioneer fronts, Brazil". 5 months, defended in September 2007.

Supervisor ratio: 20%, co-supervision with J.P. Briot, modelling support

Publications: (2018b ; 2018c ; 2017d ; 2015a ; 2015b)

□ **Manuela Vieira Pak** – Master in Sustainable Development and Public Policy from the CDS of the University of Brasilia, Brazil. Director: J.F. Tourrand.

Title: « *O modelo Transamazon: uma análise para melhorar suas limitações por meio da participação social* », 6 mois, défendu en mai 2008.

Supervisor ratio: 40%, modelling support.

Publications: (2010g ; 2010d [ACL])

SUPERVISION OF CONSULTANTS

□ **Alejandro Solís**, computer scientist, MBA in Finance and Marketing from Instituto Tecnológico of Costa Rica.

“*Diagnóstico y diseño de un sistema automatizado de recuperación, transmisión, almacenamiento y procesamiento de datos en el marco del desarrollo de sistemas nacionales de alerta temprana para la roya del café y las crisis socio-económicas resultantes*”. 2018 – 2019, on going

□ **Hernán Morales Durand**, computer scientist, Universidad Nacional de La Plata, Argentine.

“*Initiating the migration of CORMAS from VisualWorks to Pharo*”. 2017, 5 months.

PARTICIPATION IN RESEARCH PROJECTS

- ❑ **Procagica** (H2020, EU) Central America Coffee rust integral management programme. Setting up an early warning system for coffee rust at the regional level: Panamá, Costa Rica, Nicaragua, Honduras, Salvador, Guatemala et Rép. Dominicaine (on going).

Involvement: I am the sole IT specialist to set up 2 ABMs and organize the automated alert system at national and regional level.

- ❑ **FuturAgua** (ANR-Belmont) Help inform drought adaptation decisions, building resilience to water shortages in drought-prone socio-ecological systems. Land located in the Guanacaste region, Costa Rica. (2014-2017)

Involvement: sole computer scientist to design and implement an interactive simulator.

- ❑ **EcoAdapt** (EU) Action research on three Latin American countries (Chile, Bolivia, Argentina) to support water management, contribute to local development and reduce people's vulnerability to climate change (2012-2016)

Involvement: sole computer scientist to design and implement an interactive simulator.

- ❑ **ADD ComMod** (ANR): Companion Modelling, a research practice for sustainable development

Involvement: Methodology and reflection on the role and place of ABMs.

- ❑ **Sequía**, (INIA) Uruguay (Resp. D. Bartaburu). Implementation and evaluation of a participatory modelling and simulation methodology to contribute to the understanding and communication of the drought phenomenon and improve the adaptive capacity of livestock farmers in Uruguay. 01/09/2009 - 31/12/2011.

Involvement: sole computer scientist to design and implement an interactive simulator. Modellers training.

- ❑ **Indicators** (Cirad): Identification of the main indicators of environmental pressure as a function of an increasing degree of anthropisation (Y. Clouet, Cirad)

- ❑ **HEMA** (CSIRO): HEMA (Human-Ecosystems Modelling and Management with Agents) is a French-Australian network of excellence that promotes the use of multi-agent models. (P. Perez, Cirad)

- ❑ **PPP** (INRA): The "Public Policy and Landscape" project aims to test the impact of public policies on the structure and dynamics of landscapes. (R. Lifran, INRA – dept. of economy and rural sociology).

Projects in Brazil:

- ❑ **Ecotera** (ANR) Eco-efficiency and territorial development in the Brazilian Amazon. (2014-2017)

Involvement: Design and use of an interactive game. The development of the simulator was carried out by another computer scientist, based on the initial set.

- ❑ **Odyssea** (H2020, EU) Observatory of the Dynamics of interactions between societies and Environment in the Amazon (on going).

Involvement: reduced because no longer based in Brazil (this is the continuation of the Clim-Fabiam project)

- ❑ **Clim-Fabiam** (FRB, Fondation de la Recherche pour la Biodiversité) Climate change and biodiversity in the Amazon floodplains: how to cope with change and help ecological and economic sustainability? (2012 - 2015)
Involvement: sole computer scientist to design and implement an interactive simulator.
- ❑ **FloAgri** (EU): Forest and agriculture in the Amazon (<http://www.floagri.org.br>), 2005-2009.
Involvement: sole computer scientist to design and implement an ABM.
- ❑ **ACI AMAZONIA** : extension de l'élevage, Land Use Change et deforestation au Brésil, Pérou et Equateur
Involvement: sole computer scientist to design and implement an ABM.
- ❑ **ADD TRANS** (ANR): transformation of livestock farming and territorial dynamics
Involvement: sole computer scientist to design and implement an ABM.
- ❑ **ADD EQUICO** (ANR): Emergence of Quinoa in world trade: what consequences on social and agricultural sustainability on the Bolivian Altiplano?
Involvement: Design and implement an interactive game, participatory design of an ABM.
- ❑ **ADD AMAZ** (ANR): Ecosystem services of Amazonian agro-sylvo-pastoral landscapes: Analysis of socio-economic determinants and scenario simulation.
Involvement: sole computer scientist to design and implement an ABM.
- ❑ **ADD AVITER** (ANR): Poultry sectors in France and Brazil: impacts on the sustainable development of production basins and territories
Involvement: design models but no simulator.
- ❑ **SCENARIOS**, (IAI/SGP-HD, InterAmerican Institut for Global Change): Design a methodology to assess local knowledge on global change and its role in the development of future land use scenarios by local actors.
Involvement: Methodology and reflection on the place of ABMs in prospective approaches.
- ❑ **Biodam** (IFB, institut français de la biodiversité): biodiversity and sustainable development of natural resources in the Amazon (JF. Tourrand, Cirad, F. Huynh, IRD and D. Mitja, IRD).
Involvement: sole computer scientist to design and implement an ABM.
- ❑ **Negotat** (Inco, EU): European project (INCO) that aims to facilitate negotiations for land and water access in peri-urban basins, by using multi-agent models and role playing games (R.Ducrot, Cirad)
Involvement: sole computer scientist for training computer scientists and modellers to design and implement an ABM.
- ❑ **AgroAmbiente**, (Embrapa) Brasil, Pará. "Environmental services for socio-economic development and environmental conservation in the Brazilian Amazon". Continuation of the ProAmbiente project, limited to the State of Pará, and focused on remuneration for eco-system services. 01/04/2009 – 31/04/2011
Involvement: Reflections on how to integrate ecosystem services into ABMs.
- ❑ **iLPF** (Embrapa. Resp. A. Bendahan) Brésil, "Integrating Crop-Livestock-Forestry: Alternative Development in Altered Areas in the Brazilian Amazon

Involvement: sole computer scientist to design and implement an ABM.

- ❑ **Biofuel**, (IAI: Inter-American Institute for Global Change) South Am. (Resp. JF. Tourrand). Land use, biofuels and rural development in the La Plata basin. Assess the social and environmental impacts of biofuel development in the basin; design a generic model highlighting social and environmental impacts. 01/01/2009 – 31/12/2010

Involvement: sole computer scientist to design and implement an ABM and for training.

- ❑ **Geoma**, (INPE) Brazil. The objective of the Geoma modelling group is to support research in environmental modelling in the Amazon. The project led by INPE aims to develop Lucc models for the Amazon. 01/01/2008 – 31/12/2011. National Laboratory for Scientific Computing (<http://www.lncc.br>).

Involvement in the Brazilian Geoma network

PROFESSIONAL ACTIVITIES

RESPONSIBLE OF CORMAS DEVELOPMENT

Cormas is a modelling platform dedicated to the simulation of multi-agent models for renewable resource management. Cormas is oriented towards collective modelling and interactive simulation.

In charge of the development of Cormas, I also manage the Cormas website (<http://cormas.cirad.fr>) as well as the user forum cormas@cirad.fr.

FORMALISATION AND PARTICIPATORY USE OF MODELS

- ❑ See projects and supervisions

INVOLVEMENT IN RESEARCH NETWORKS

- ❑ Animator of the Cormas forum
- ❑ Member of the ComMod network (coupling role-play games and ABMs)
- ❑ Member of the « Participatory Modeling » network of Sesync (<http://www.sesync.org>)

REVIEWERS FOR JOURNALS AND CONFERENCES

- ❑ Ecology & Society. Journal with 5-Year Impact Factor: 4.644
- ❑ Environmental Modelling & Software. Journal with 5-Year Impact Factor: 4.528
- ❑ Journal of Artificial Societies & Social Simulation (JASSS). 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)
- ❑ Member of the editorial board of the SESMO journal "Socio-Environmental Systems Modeling", a new peer-reviewed and open access journal.

TEACHING

Modeling training is an important part of my activities. While my courses focus on agent-based models, I also present other modeling tools (Dynamics Systems, Fuzzy Cognitive Mapping, Bayesian Networks, IPSIM, RpG, UML) to give a more general overview of modeling and show the advantages and disadvantages of each paradigm.

- ❑ 2011 to 2018: Co-organizer of 8 MissABMs summer schools taught in English for an international audience: « *Multi-platform International Summer School on Agent-Based Modeling & Simulation* ». Annual training hosted by Agropolis International in Montpellier, 2 weeks per session. Between 20 and 25 international participants at each session, doctoral level to researcher.
- ❑ 2001 to 2010: Co-organizer of 22 two-week training sessions, entitled « *International Training Programme on Multi-Agents Systems for Natural Resources Management* ». 12 sessions delivered in English for an international audience: Halle (Germany), Pretoria (South Africa), São Paulo and Brasília (Brazil), Alexandria (Egypt), Wageningen (Netherlands), San José (Costa Rica), Montevideo and Salto (Uruguay), and more than 10 others in Montpellier (France). About twenty participants in each session, level: master, doctorate and researcher.
- ❑ 2007 - 2019: University modules for multi-agent modeling at the universities of Brasilia, Rio (in Portuguese), Uruguay and Costa Rica (in Spanish): « *Diseño, implementación y simulación de sistemas multiagentes para la gestión de recursos renovables* » or « *Modelado multi-agentes para aplicaciones en ciencia y política ambiental* » (40h per module).
- ❑ July 2003: Visiting professor at the COSI summer school, « *Complexity in Social Science* », in Baeza, Spain
- ❑ 2002 and 2003: Programming courses in Java. DESS IAO, Univ. Montpellier 2 and IUT of Nîmes.
- ❑ 2000 and 2001: "UML Training" for the training company Orsys.

LANGUAGES

- ❑ French, fluent
- ❑ English, fluent
- ❑ Spanish, fluent
- ❑ Portuguese, fluent
- ❑ German, notions

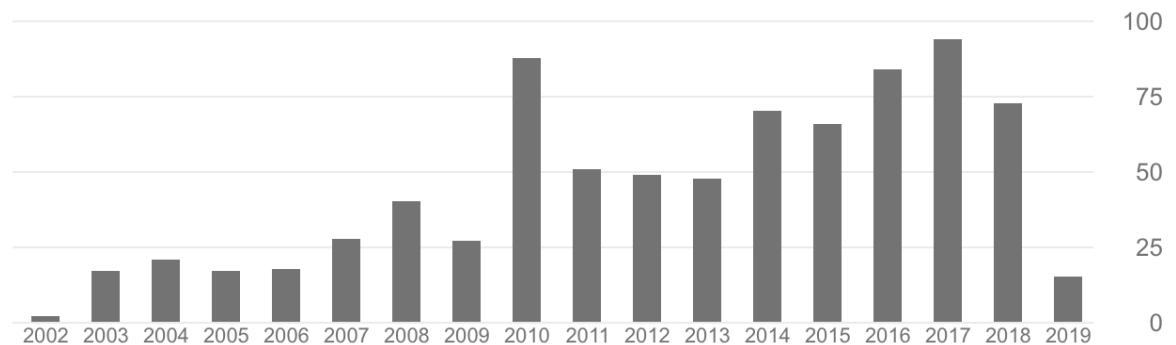
LIST OF PUBLICATIONS

A total of 22 publications in impact factor journals, including 5 publications in computer journals. 15 participations in conferences in computer science and 7 book chapters in computer science. Working mainly in interdisciplinarity, most of my publications are in other areas.

Publications in international/national impact factor journals	22
Articles in peer-reviewed journals with no impact factor	2
Book chapters	20
publications in international/national professional journals	2
Communications at conferences/conferences	
Invited papers	3
Communications with proceedings in international congresses	42
Communications without act in congress	24
Poster communications in congresses	5

The "Google Scholar" database contains 844 citations, i.e. an h-index of 15 and an i10 index of 26.

Number of citations per year (based on "Google Scholar"):



List of online referenced publications:

- ❑ Google Scholar profile: <https://scholar.google.com/citations?user=6UeWwSoAAAAJ&hl=fr>,
- ❑ Database of Cirad: <https://agritrop.cirad.fr/view/auteurcirad/1475.html>,
- ❑ ORCID: <http://orcid.org/0000-0002-7776-9075>.
- ❑ Computer publications are presented on the referencing site « The dblp computer science bibliography » : <https://dblp.org/pid/92/2449>).

INTERNATIONAL JOURNALS

The impact factors of the reviews (noted in square brackets:[IF: xxx]) are those from the *Thomson Reuters Journal Citation Reports*.

(2019a) **[IF: 2.838]** Sterling E. J., Zellner M., Leong K., Jenni K. E., Gray S., Jordan R., BenDor T. K., Jetter A. J., Schmitt Olabisi L., Paolisso M., Hubacek K., Bommel P., Bammer G. 2019. Try, try again: Lessons learned from success and failure in participatory modelling. *Elementa: Science of the Anthropocene*. 7(1), p.9. DOI: <http://doi.org/10.1525/elementa.347>

- (2018d) **[IF: 4.528]** Voinov, A., Jenni, K., Gray, S., Kolagani, N., Glynn, P.D., Bommel, P., Prell, C., Zellner, M., Paolisso, M., Jordan, R., Sterling, E., Schmitt Olabisi, L., Giabbanelli, P.J., Sun, Z., Le Page, C., Elsworth, S., BenDor, T.K., Hubacek, K., Laursen, B.K., Jetter, A., Basco-Carrera, L., Singer, A., Young, L., Brunacini, J., Smajgl, A., 2018. Tools and methods in participatory modeling: Selecting the right tool for the job. *Environmental Modelling & Software* 109, 232-255. doi: <http://doi.org/10.1016/j.envsoft.2018.08.028>
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