

# Etienne **Delay**

RESEARCHER · SOCIAL GEOGRAPHY · SPATIAL MODELLING

CIRAD, UMR SENS, Université Cheikh Anta Diop de Dakar Sénégal (UCAD)

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"All these borders are nothing but artificial lines." (E. Reclus, 1868)

Skills

**Languages** English (Academic), French (Native), Italian (Advanced)

**Programming** ♥ R, Netlogo, SQL and dialects, ŁTFX, markdown, ♥Smalltalk

**Modelling** Netlogo, ♥ OpenMOLE, Gama platform, ♥ Pharo, QGIS, GRASS

**Back-end** ♥ Linux & Unix-like, Docker, Git, Travis CI, Mapserver, GeoServer, PostgreSQL, PostGIS

Projects.

CaSSECS project

CIRAD, Montpellier, FR ISRA, Dakar, SNG

P. SALGADO ET M.F. DIONG

2020 - 2023

CaSSECS (Carbon Sequestration and GHG emissions in (agro)Sylvopastoral Ecosystems in the sahelian CILSS States), funded by the European DeSIRA program, has the overall objective of providing to the CILSS countries, knowledge on greenhouse gas emission factors and reference data. With these elements, these countries will be able to better establish the seasonal and annual carbon balance of agro-sylvopastoral ecosystems. This assessment will be a basis for advocacy in international negotiations regarding commitments made in the Paris climate agreement.

My responsibility: responsible for the task "Companion Modelling (ComMod)", piloting tasks around the accompanion

niment in reforestation activities. Co-supervision of a PhD student.

#### **Prospective Niayes 2040**

CIRAD, Montpellier, FR

C. JAHEL

2019 - 2021

This project is to be considered as a "proof of concept", aiming to support local actors (here in the Niayes area of Senegal) from a prospective questioning to the action by mobilizing the tools of anticipation and by coupling them with the ComMod approach.

My responsibility: to guide the development of an experimental game to meet social objectives. Putting the game into production and acquiring the results.

ANR DouBT UMR G-EAU, Montpellier, FR

J.-P. VENOT

2018 - 2019

The DouBT project (Deltas' Dealings with Uncertainty), funded by the National Research Agency (France, ANR-15-ORAR-0002) proposes to provide innovative insights into ways of conceptualizing and managing uncertainty in the environmental planning sector of Southeast Asian deltas.

My responsibility: Design of a game co-constructed with local actors and partners. Supervision of workshops with stakeholders. Supervision of a Master 2 student on uncertainties.

ProSuLi project CIRAD, Montpellier, FR

N. GADET ET A. CARON

2018 - 2022

The European project ProSuLi (*Promoting Sustainable Livelihoods in TFCAs*, Grant FED/2017/394-443) aims to explore the possibilities of collective management of TFCAs (Transfrontier Conservation Areas). A process of accompanying local stakeholders is being implemented in four sites (four southern African countries).

My responsibility: for our Botswanan site, expertise and animation of co-construction and prospective workshops. Elaboration of a game co-constructed with the actors. Facilitation of workshops and acquisition of results to help the decision of strategic orientations.

DSCATT project CIRAD, Montpellier, FR

D. MASSE ET A. FALOT

2018 - 2023

DSCATT project (Dynamics of Soil Carbon Sequestration in Tropical and Temperate Agricultural systems) is funded by the Agropolis Foundation and the Total Foundation. The interdisciplinary approaches aim to investigate the possibilities of mobilizing carbon storage in soils, through four sites (1 in France, 3 in Africa: Senegal, Zimbabwe, Kenya). My responsibility: leader of the WP3-Territory and co-leader of the WP4 "Companion modelling". Development of a

methodology of knowledge explicitation. Supervision of two Master 2 students. Supervision of a post-doc.

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#### Task Force "Operationalizing the Commons".

CIRAD, Montpellier, FR

2018 - 2021

This work is in line with the activities of the French Cooperation's "Land and Development" Technical Committee. The objective is to provide to the AFD (French Agency for Development) tools that will allow it to take into account the Commons and to promote their approach in development projects.

My responsibility: expertise for the AFD, writing of a guide for development agents. And a policy brief for the French Cooperation's "Land and Development" Technical Committee

**ANR Future-Sahel** UMI 3189 CNRS, Dakar, SNG

D. GOFFNER 2017 - 2019

The Future-Sahel project, funded by the French National Research Agency (ANR-15-CE03-0001), aims to provide scientific and technical assistance to the National Agency of the Great Green Wall in Senegal.

My responsibility: construction of a spatial database, guiding the development of methodologies for the quantification of tree-related uses in the Sahel, facilitation of workshops.

### **COMMONS Programm**

UMR 6042 CNRS, Limoges, FR

M. CHEVALLIER ET E. DELAY

Le programme Commons "Collective ManageMent Of Natural reSources" was financed by Limoges University International Call for Proposals (AOI) and by the University's Partnership Foundation. Objective: to structure a network of international partners to engage an interdisciplinary approach around the processes of collective management of natural resources.

My responsibility: coordination of an international seminar around the questions of the Commons (Greece, Morocco, Portugal, France).

#### LittoSim project

UMR 7266 CNRS, La Rochelle, FR

N. BECU ET M. AMALRIC

2015 - 2018

The LittoSim project was financed within the framework of the "2015 Coastal Challenge" of the CNRS (French National Centre for Scientific Research) and brought together 11 French researchers. Objective: to develop a pedagogical tool to raise awareness of prevention and planning measures related to the risk of marine submersion. **My responsibility**: development of software bricks, debriefing methods and visualization tools.

#### VitiTerroir program

UMR 7324 CNRS, Tours, FR

S. LETURCO ET A. LAMMOGLIA

2014 - 2016

The VitiTerroir program has developed a prospective tool based on a model of the transformations of wine-growing terroirs in the long term.

My responsibility: co-animation of the spatial and temporal modeling axis of the project.

**LACCAVE Program** INRAE, FR

N. Ollat et J-M. Touzard

2012 - 2015

LACCAVE (Long term impacts and Adaptation to Climate ChAnge in Viticulture and Enology) brought together 23 research laboratories in France to assess the effects of climate change on grapevines and explore possible adaptation strategies. It continues today in LACCAVE 2.0.

My responsibility: organization of a seminar on model coupling, organization of a study day Climate change and viticulture. Scientific animation.

### Ricerca sulla viticoltura di montagna

Fondazione E. Mach, San

Michele all'Adige, IT

M. PONTALTI ET F. ZOTTELE

2011 - 2018

Studies and experiments for the maintenance of a mountain viticulture in Trentino and more broadly on European issues, in partnership with the CERVIM (Center of studies and research on mountain viticulture).

Ma responsabilité: développement d'un workflow de l'évaluation des paysages de terrasses et de viticulture dite « héroïque ».

**ANR TerViClim** UMR 6554 CNRS, Rennes, FR

H. QUÉNOL

2011 - 2015

The TerViClim project, for the observation and spatialization of the climate of the world's wine-growing terroirs in a context of climate change, financed by the French National Research Agency (ANR-07-JCJC-0069), has notably allowed the installation of temperature sensors in the Banyuls-Collioure AOC (Pyrénées-Orientales, FR) and in the Val di Cembra (Trentino, IT).

My responsibility: spatial modelling of temperature dynamics at a fine scale in the vineyards of AOC Banyuls and Val di Cembra.

# **Professional background and experience**

UMR SENS, CIRAD - Montpellier, FR

RESEARCHER Since 2018

At UMR SENS, as a geographer and modeler, I work on the emergence of cooperation and mutual aid. I consider space as a social production, and this production is robust to changes in scale. By entering the 'land-based commons' approch, I consider the Commons as a proxi allowing to spatially identify situations of mutual aid.

OHMi Téssékéré CNRS - Dakar, SNG

POST-DOCTORAT 2017-2018

At OHMi Téssékéré (Observatoire Hommes-Milieux International Tessékéré, Senegal): development of decision-making and mediation tools for the actors involved in the Great Green Wall project. This position is part of the ANR Future-Sahel project and is based in Dakar.

# Chaire d'excellence "Capital environnemental et gestion durable des cours d'eau"

Fondation de l'université de Limoges, FR

POST-DOCTORAT 2015-2017

Research project on the emergence of cooperation based on irrigators' collectives in the Pyrénées-Orientales department (FR).

# Pôle d'appui à la recherche

Université de Limoges, FR

INGÉNIEUR D'ÉTUDE 2015

Set up the IT infrastructure to provide dynamic mapping for the university, based on Debian, Mapserver, MySQL, Openlayer and Leaflet.

Fondazion E. Mach

San Michele all'Adige, IT

INGÉNIEUR D'ÉTUDE 2011

Complete management of a project, from the pre-project study to the implementation of the prototype infrastructure of cartographic servers. Work on LIDAR data for the detection of vineyard shapes at the scale of Trentino (Italy).

# **Teachings**

## **Master Politiques publiques**

Sciences Po Rennes. FR

LECTURER March 2021

Present the hybridization between the approaches and tools of anticipation and ComMod: The example of the Niayes in Senegal.

#### Webinaire ComMod - GRET

Paris, FR

KEY SPEAKER 2020

To propose an adapted reading to GRET (Groupe de recherche et d'échange technologique, France) of the sociotechnical implications of the mobilization of the ComMod approach in their projects, in particular in the framework of their work on the Commons.

### Webinaire One Health dans les projets de développements

Montpellier, FR

2020

CO-ORGANIZER

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To present the integration of companion modeling approaches with the concepts carried by *One health* 

Thematic school exModelo Châtenay sur Seine, FR

**CO-ORGANIZER** *June* 2019 – 2021

Thematic school on the exploration of simulation models (sensitivity analysis, calibration, validation, etc.) for 25 participants. It is aimed at masters, PhD students, engineers, academic researchers and companies interested in modeling, whatever their scientific field. The objective is to teach participants to become autonomous in exploring their models.

https://exmodelo.org/

#### Thematic school MISS-ABMS

Montpellier, FR

Co-organizer September 2019, 2021

Thematic school for 30 participants. Two weeks of training in multi-agent modeling on 3 platforms: cormas, netlogo and gama.

https://www.agropolis.org/miss-abms/

#### Thematic school ComMod

Châteauneuf de Gadagne, FR

Co-organizer September 2019, 2020

Thematic school for 30 participants. A week of training in facilitation and Companion modelling. https://www.commod.org/

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#### Thematic school CNRS MAPS

CAES CNRS - Olérons, FR

CO-ORGANIZER

June 2017, 2018, 2019, 2021

Thematic school accredited by the CNRS. For 30 participants, a week of training in the development of spatialized models of socio-environmental phenomena. https://maps.hypotheses.org/

#### **Center for Doctoral Studies IBN ZOHR**

Université IBN ZOHR Agadir, MA

LECTURER

March 2016

Co-animation of a training week on multi-agent modeling for PhD students of the IBN ZOHR PhD school in Agadir.

**Geography Department** 

Université de Limoges, FR

LECTURER 2013–2016

In charge of 80 hours of lectures in statistics (with R) for the Licence 1 Geography (40 h), and in geomatics (with Qgis, GRASS-GIS, R) for the Master 2 Geography/History/Sociology (20 h). I also taught two modules (10 h each) for Master 2 students on the acquisition of innovative research tools and methods in social sciences: serious games and social network analysis. Each time, the courses were in person and accompanied by an electronic support on the e-learning platform (moodle 2.X) of the university.

# **Community involvement**

2021	Google Summer of Code Mentor, Pharo team, manipulation of spatial objects	USA
Since 2015	Permanent member, OpenMOLE team (https://openmole.org/), ISC-PIF	Paris, FR
Since 2015	Permanent member, MAPS (https://maps.hypotheses.org/)	FR
Since 2015	Permanent member, OSGeo (https://www.osgeo.org/)	USA
2019-2020	<b>Scientific facilitator</b> , thème "anticipation", dép. Environnements et sociétés (ES) du CIRAD	FR
June 2017	Member of the scientific committee, $20^e$ GiESCO international congress (https://www.giesco.org/)	Mendoza, ARG
Oct. 2016	<b>Member of the scientific committee</b> , Workshop "Alternative forms of participation in water democracy	FLSH-Limoges, FR
June 2015	Member of the scientific committee, $19^e$ GiESCO international congress	Gruissan, FR
2014-2016	<b>Coordinator</b> , Free and Open Source Software for Geospatial Congress (FOSS4G, organized par l'OSGeo)	Marne-la-Vallée, FR

# Academic curriculum

GEOLAB UMR 6042 CNRS

*Limoges, FR* 2011-2015

PhD in Geography

Evolution and landscape prospectives of steep slope wine areas

In this thesis, I worked on the prospective, spatial and temporal possibilities offered by the co-construction of agent-based models with local actors. Thesis realized under the supervision of Eric Rouvellac, Nicolas Becu and Philippe Allée. Thesis qualified by the CNU (section 23) in January 2016.

Université de Limoges Limoges, FR

DEUST "Webmaster and intranet manager"

2009-2011

Learning of tools, web languages and network management.

Université de Limoges Limoges, FR

L3, M1, M2 "VALUATION OF HERITAGE AND TERRITORIAL DEVELOPMENT"

2008-2011

Territorial development of rural areas.

Professional training center for adults

La Côte-Saint-André, FR 2006-2008

BTSA "Management and Protection of Nature"

Specialization in Management of Natural Spaces (in apprenticeship).

Université Joseph Fourier Grenoble, FR

L1 AND L2 BIOLOGY 2004-2006

Specialty: modeling of natural phenomena (R-project).

#### Peer-reviewed journal articles

- Jahel, C., R. Bourgeois, D. Pesche, M. d. Lattre-Gasquet, and **E. Delay** (Mar. 2021). "Has the COVID-19 crisis changed our relationship to the future?" en. In: *FUTURES & FORESIGHT SCIENCE*, pp. 1–15. ISSN: 2573-5152. DOI: https://doi.org/10.1002/ffo2.75.
- Vovides, A. G., M.-C. Wimmler, F. Schrewe, T. Balke, M. Zwanzig, C. Piou, **E. Delay**, J. López-Portillo, and U. Berger (May 2021). "Cooperative root graft networks benefit mangrove trees under stress". en. In: *Communications Biology* 4.1. Bandiera\_abtest: a Cc\_license\_type: cc\_by Cg\_type: Nature Research Journals Number: 1 Primary\_atype: Research Publisher: Nature Publishing Group Subject\_term: Climate-change ecology; Ecological networks; Ecosystem ecology Subject\_term\_id: climate-change-ecology; ecological-networks; ecosystem-ecology, pp. 1–8. ISSN: 2399-3642. DOI: 10.1038/s42003-021-02044-x.
- **Delay, E.**, S. Aubert, and A. Botta (2020). "Définir et mettre une approche par les communs tissés autour de la terre et des ressources qu'elle porte." In: *Fiche pédagogique du CTFD*, p. 4.
- Pachoud, C., **E. Delay**, R. Da Re, M. Ramanzin, and E. Sturaro (2020). "A relational approach to studying collective action in dairy cooperatives producing mountain cheeses in the Alps: The case of the primiero cooperative in the Eastern Italians Alps". In: *Sustainability*. DOI: 10.3390/su12114596.
- **Delay, E.** and J. Linton (Apr. 2019). "Collective irrigation, the state and social relations in the Eastern Pyrenees of France". In: *Environment and Planning C*, pp. 1–20. DOI: 10.1177/2399654419838711.
- **Delay, E.** and C. Piou (Dec. 2019b). "Mutual aid: When does resource scarcity favour group cooperation?" In: *Ecological Complexity* 40, p. 100790. ISSN: 1476-945X. DOI: 10.1016/j.ecocom.2019.100790.
- Lammoglia, A., S. Leturcq, and **E. Delay** (Oct. 2018). "Le modèle VitiTerroir pour simuler la dynamique spatiale des vignobles sur le temps long (1836-2014). Exemple d'application au département d'Indre-et-Loire". In: *Cybergeo : European Journal of Geography*. ISSN: 1278-3366. DOI: 10.4000/cybergeo.29324.
- Amalric, M., B. Anselme, N. Bécu, **E. Delay**, N. Marilleau, C. Pignon, and F. Rousseaux (Dec. 2017). "Sensibiliser au risque de submersion marine par le jeu ou faut-il qu'un jeu soit spatialement réaliste pour être efficace?" In: *Sciences du jeu* 8. ISSN: 2269-2657. DOI: 10.4000/sdj.859.
- Becu, N., M. Amalric, B. Anselme, E. Beck, X. Bertin, **E. Delay**, N. Long, N. Marilleau, C. Pignon-Mussaud, and F. Rousseaux (Dec. 2017). "Participatory simulation to foster social learning on coastal flooding prevention". In: *Environmental Modelling & Software* 98, pp. 1–11. ISSN: 1364-8152. DOI: 10.1016/j.envsoft.2017.09.003.
- **Delay, E.**, S. Leturcq, and X. Rodier (2017). "ViCTOr: paysage virtuel pour explorer les dynamiques de la Viticulture et de la Consommation en TOuRaine." In: *Cybergeo: European Journal of Geography*. DOI: 10.4000/cybergeo. 28356.
- Taillandier, F., C. Adam, **E. Delay**, O. Plattard, and M. Toumi (2017). "Sprite: un modèle de simulation participative pour la sensibilisation au risque de submersion marine sur l'île d'Oléron." In: *Annales du Bâtiment et des travaux Publics* 65.5, pp. 38–47.
- **Delay, E.**, M. Chevalier, É. Rouvellac, and F. Zottele (2015). "La coopérative : origine et conséquence des paysages viticoles de montagne?" In: *Journal of Alpine Research* \textbar Revue de géographie alpine. DOI: 10.4000/rga. 2719.
- **Delay, E.** and M. Chevallier (May 2015). "Roger Dion, toujours vivant!" In: *Cybergeo: European Journal of Geography*. ISSN: 1278-3366.
- **Delay, E.**, C. Piou, and H. Quénol (Nov. 2015). "The mountain environment, a driver for adaptation to climate change". In: *Land Use Policy* 48, pp. 51–62.
- Zottele, F. and **E. Delay** (Mar. 2014). "È possibile descrivere la resistenza dei paesaggi vitati di montagna utilizzando un territorio virtuale? Il caso trentino". In: *Territoires du vin* 6. ISSN: 1760-5296.
- **Delay, E.** (Dec. 2013a). "Du paysage au terroir viticole de forte pente : à la recherche des leviers du management territorial". In: *Projets de paysage* 9, pp. 1–18.
- **Delay, E.**, J. Bourgoin, and F. Zottele (2013). "Impact of cooperation on vineyards mountain landscape". In: *Ciência e técnica vitivinicola* 28.1. ISSN: 0254-0223.
- **Delay, E.**, F. Zottele, H. Quenol, and G. De Ros (2013). "Mountain: a way for adaptation to global warming". In: *Ciência e técnica vitivinicola* 28.1. ISSN: 0254-0223.
- **Delay, E.** and F. Zottele (Sept. 2012a). "Cartographie web: comment construire le lien entre territoire et consommateur?" In: "CARTES & GÉOMATIQUE Un Autre Monde" 213, pp. 70–75.
- Zottele, F., D. Andreis, and **E. Delay** (2012). "Quanto sono eroici? Nuovi strumenti per la valorizzazione del lavoro dei viticoltori di montagna". In: *Terra Trentina* 4, pp. 20–23.

#### **Book chapters**

- Maraud, S. and **E. Delay** (June 2021). "Questioning capitalistic power structures: a way to reconnect stakeholders with the land?" In: *Anarchist Political ecology: inhabiting the earth*. Vol. 2. Rowman & Littlefield International.
- **Delay, E.** (June 2020). "Prospective et Scénarios". In: *Dictionnaire critique de l'anthropocène*. Ed. by F. Alexandre, F. Argounès, R. Bénos, D. Blanchon, F. Blot, L. Chanteloup, E. Chevalier, S. Guyot, F. Huguet, B. Lebeau, G. Magrin, P. Pelletier, M. Redon, F. Roussel, A. Sierra, and D. Soto. CNRS Dictionnaires. CNRS Editions, p. 4.
- **Delay, E.** and N. Becu (2018). "Overcoming the final frontier of climate change in viticulture: exploring interactions between society and environment using Agent Based Modelling and Companion Modelling approaches." In: *Sustainable grape and wine in a context of climate change*. Vigne & Vin Publications Internationales, pp. 1–13.
- Linton, J. and **E. Delay** (2018). "Death by certainty: The Vinca dam, the French state, and the changing social relations of irrigation the Têt basin of the Eastern French Pyrenees". In: *Water, Technology and the Nation-State*. Ed. by F. Menga and E. Swyngedouw. UK: Routledge, pp. 1–16.
- **Delay, E.**, R. Reulier, A. Gaudieux, H. Thierry, M. Amalric, A. Banos, and M. Debonlini (July 2014). "Modèle Sisbio: Les apports d'un automate cellulaire au territoire". In: *Receuil de fiches pédagogiques du réseau MAPS*. Vol. 1. MAPS, pp. 197–217.
- Zottele, F., D. Andreis, and **E. Delay** (2013). "Vigneti di montagna, quanto sono eroici". In: *Valle di Cembra, il territorio, la gente, il vino*. Trento (Italie): Artimedia, pp. 211–215.

#### **Book**

Aubert, S., F. Gerard, **E. Delay**, C. Le Page, N. Gaidet, P. D'Aquino, P. Karpe, M. Boche, and S. Leyronas (2020). *Approche par les communs de la terre et des ressources qu'elle porte*. Regard sur le foncier 9. Comité technique « Foncier & développement », AFD, MEAE.

#### **Conferences/posters**

- Cerceau, J., W. Daré, C. Le Page, and **E. Delay** (2021). "Jeu CAP>BIOMASSE Une modélisation hors de contrôle?" In: *Rencontres Ethnographies plurielles #10*. Montpellier.
- Daré, W. and **E. Delay** (2021). "Le jeu de rôles : un outil d'investigation du champ social qui n'est pas sans risque!" In: *Rencontres Ethnographies plurielles #10*. Montpellier.
- **Delay, E.**, J.-P. Muller, J.-D. Cesaro, H. Valls-Fox, and A. Ickowicz (2021). "Empowering a model for improved multi-actor discussions: case study from Dairy production in Sahelian agro-pastoral systems". In: *Gama Days 2021*. Toulouse, p. 73.
- Venot, J.-P., C. B. Jensen, W. Daré, and **E. Delay** (2021). "Des jeux sérieux pour comprendre et aménager les plaines inondables du Cambodge". In: *Science et sens des modèles*. Montpellier, France.
- **Delay, E.**, P. Chapron, M. Leclaire, and R. Reuillon (Sept. 2020). "ComExp: une manière d'introduire l'exploration avec les acteurs". In: *Journée ComMod*. le Cauvel, France.
- **Delay, E.**, A. Hubert, A. Camara, A. Faye, R. Bourgeois, and C. Jahel (2020). "From foresight exercise to operative rules for the collective use of water resources: the case of Niayes in Senegal". In: *IASC 2020 Web Conference on African Commons*.
- **Delay, E.** and J. P. Müller (2020). "Approche par les communs : structure formelle des usages et quête de sens". In: *IASC 2020 Web Conference on African Commons*.
- Becu, N., M. Amalric, B. Anselme, E. Beck, P. Bergossi, X. B. Bertin, **E. Delay**, N. Marilleau, C. Pignon-Mussaud, N. Long, G. Rieu, and F. Rousseaux (Mar. 2019). "LittoSIM: une simulation interactive pour expérimenter des stratégies alternatives de prévention du risque de submersion marine". In: *Journées REFMAR 2019*. event-place: La défense, France
- Becu, N., M. Amalric, B. Anselme, E. Beck, P. Bergossi, **E. Delay**, N. Marilleau, C. Pignon-Mussaud, and F. Rousseaux (Aug. 2019). "Participatory simulations with decision makers on coastal flooding prevention: what did they learn?" In: *International Simulation and Gaming Association Conference*. event-place: Warsaw, Poland.
- Berger, U., M.-C. Wimmler, C. Piou, **E. Delay**, and A. G. Vovides (2019). "Individual-based modeling to discover the ecological importance of tree networks". In: *ESA & USSEE 2019*. event-place: Louisville, USA.
- Daré, W., **E. Delay**, and J.-P. Venot (2019). "De l'incertitude au risque : apprentissages autour de la réhabilitation des preks dans la région de Kandal (sud Cambodge)". In: *Colloque Jeux et enjeux*. event-place: Marseille.
- Daré, W., J.-P. Venot, and **E. Delay** (2019). "Investigating the justice dimension of water infrastructures: Demonstration and insights from a serious game in Kandal province, Cambodia". In: *Environmental Justice Conference 2019*. event-place: Norwich, Royaume-Uni. DOI: 10/7/ID596910.pdf.

- **Delay, E.**, W. Dare, J.-P. Venot, M. Neang, and S. Seng (July 2019). "The boeung: a sensitive common threatened by uncertainty in intensification process". In: *XVII Biennial IASC Conference*. event-place: Lima, Pérou.
- **Delay, E.** and C. Piou (July 2019a). "Can some specificities of the resources encourage mutual aid?" In: XVII Biennial IASC Conference. event-place: Lima, Pérou.
- Goffner, D. (June 2019). "Interdisciplinary research to enhance ecosystem service (ES) delivery along the Great Green Wall for the Sahara and Sahel Initiative (GGW) in Senegal". In: *Ecosystem Services Partnership Africa*. event-place: Kpalimé, Togo.
- Reuillon, R., M. Leclaire, J. Raimbault, H. Arduin, P. Chapron, G. Chérel, **E. Delay**, P.-F. Lavallée, J. Passerat-Palmbach, P. Peigne, J. Perret, and S. Rey-Coyrehourcq (Sept. 2019). "Fostering the use of methods for geosimulation models sensitivity analysis and validation". In: *ECTQG 2019*. event-place: Mondorf, Luxembourg.
- Bommel, P., N. Becu, B. Bonté, **E. Delay**, C. Le Page, H. Morales, N. Papoulias, and S. Stinckwich (Sept. 2018). "CORMAS, a participatory and interdisciplinary Agent Based Simulation Platform". In: *ESUG2018*. event-place: Cagliari.
- Zottele, F. and **E. Delay** (Feb. 2018). ""Alla ricerca del capitale paesaggistico!"" In: *Ri-marginare il paesaggio*. event-place: Trento, Italy.
- **Delay, E.** (May 2017). "A Great Green Wall social-ecological systems database". In: *Séminaire LabEX DRIIHM*. event-place: Aveiro (Portugal).
- **Delay, E.** and S. Maraud (Sept. 2017). "Questioning capitalistic power structures: a way to reconnect stakeholders with the land?" In: *ICAGG*.
- Niang, K., **E. Delay**, J.-L. Peiry, and D. Goffner (May 2017). "Perception de l'arbre en contexte Sahélien". In: *Séminaire LabEX DRIIHM*. event-place: Aveiro (Portugal).
- Zottele, F. and **E. Delay** (Mar. 2017a). "Chasing the landscape capital in space and time: a model for Val di Cembra". In: *Extreme viticulture: values, beauties, alliances, vulnerabilities*. event-place: Conegliano (TV) Italy.
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