



UOC

Internet Interdisciplinary Institute (IN3): Shaping the Future Internet

**Annual Report
2021**

**Universitat Oberta
de Catalunya**

Internet Interdisciplinary Institute (IN3)

Annual Report
2021

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01



Introduction

What is the IN3?

Founded between 1999 and 2000 by **Gabriel Ferraté** (UOC and IN3 president) and **Imma Tubella** (UOC vice president for research and IN3 vice president), the **Internet Interdisciplinary Institute (IN3)** is a research centre at the **Universitat Oberta de Catalunya (UOC)** specializing in the study of the network society. The network society is the result of increased centrality and changes in the conditions for generating knowledge and processing information and data, which were brought on by the emergence of the internet and digital technologies (ICT).

The IN3, unlike other research centres, connects **human sciences** (social sciences, health sciences, humanities, arts, etc.) with **engineering** disciplines, particularly computer science and telecommunications. IN3 research, currently carried out by **11 research groups**, is grounded in **multidisciplinarity, transdisciplinarity and interdisciplinarity**. On the engineering side, the IN3 creates, designs and prescribes new technologies that feed the network society and have an impact on society. And on the human sciences side, the IN3 analyses the effects of new technologies on society and identifies social needs in the context of the network society. The interrelation between engineering disciplines and human sciences at the IN3 distinguishes its research work, through which it aims to solve the social and technological challenges of the network society.

In order to maintain scientific excellence, the IN3 regularly hosts meetings of the **Scientific Advisory Board**. This board, made up of ten researchers from various research centres and universities in Europe and the United States, serves a dual purpose. First, the board periodically evaluates the IN3's research groups and, second, it advises the IN3 on attracting new talent and suggests areas of improvement for the future.

Introduction

Mission, vision and values of the IN3

Mission

The **IN3's mission**, based on research on the knowledge society (network society), puts transversality and interdisciplinarity at the forefront, placing special emphasis on the interaction between Human and Engineering Sciences, and establishes social progress as a major research goal.

Vision

With regard to its **vision**, the IN3 aspires to become a **pioneering reference centre** in terms of the collaboration of the life sciences and the engineering disciplines in order to conduct **frontier research on the network society**. To this end, it focuses its research efforts on **analysis of the effect of ICT and internet development on human activity**, leading the **formulation of technological solutions to address the needs and demands of the network society**, and, in doing so, contributing to **social progress**.

Values

The **IN3's values** are **commitment, respect, transparency, professionalism and sustainability**.

Introduction

Statement for the 2021 report



In the third volume of his celebrated trilogy on the information age, Professor Manuel Castells, the founder and lead researcher of the IN3 (Internet Interdisciplinary Institute) wrote:

“The promise of the Information Age is the unleashing of unprecedented productive capacity by the power of the mind. I think, therefore I produce. In so doing, we will have the leisure to experiment with spirituality, and the opportunity of reconciliation with nature, without sacrificing the material well-being of our children. The dream of the Enlightenment, that reason and science would solve the problems of humankind, is within reach.”

Knowledge and the power of the mind, as Professor Castells put it, being transmitted unconstrained by space and time is the driving force behind the hyper-digitalized societies of the 21st century.

Introduction

The IN3 was created in the 1999/2000 academic year to conduct cutting-edge research into the network society, i.e. the interactions between digital technologies (mainly the internet) and the wide-ranging fields of human society. Today, with more up-to-date terminology, we might say that the IN3 researches the digital transformation of society. This research is possible due to the confluence of disciplines that would appear – at least in principle – to be far removed from one another: the human & social sciences coming together with computer science. Interdisciplinary collaboration across these two important areas of knowledge allows us not only to analyse how society is being transformed, but also to participate in this transformation with the aim of contributing to the progress of humanity, while doing our bit to fulfil the prophecy made by Professor Castells.

In the 2019/2020 academic year we should have celebrated the 20th anniversary of the IN3. However, with the pandemic making its cruel presence felt early in 2020, the commemoration of two decades of research had to be postponed for another year. In 2021 we managed to hold a number of 20th anniversary events and reflected on society's changes over two decades of digitalization. The workshop “The Network society today: (revisiting) the information age trilogy” took stock of this progress and also looked ahead to the future that digitalization may have in store for us from a perspective perhaps less tinged with optimism than the quote at the beginning of this text. What we can unequivocally state it is that the transformation that will take place in the next 20 years will be no less radical than that which took place between the establishment of the IN3 and now, and we will be lucky not only to bear witness to it, but also to be among its instigators.

Introduction

I would like to take this opportunity to highlight and appreciate the efforts of every single member of the team throughout these two years under the pandemic. Now, as we appear to be seeing light at the end of the tunnel and are about to move into the UOC's new research hub in the 22@ technology district of Barcelona, it seems like an opportune moment to congratulate the team for the hard work done in these two intense years, the excellent results of which are reflected in this report. Let's hope that the new post-pandemic situation and the new, closer physical location of the IN3 in the research hub will bring about renewed growth for the Institute and encourage interdisciplinary collaboration between our team and the rest of the UOC's academic staff. We are also implementing a new strategic plan that will require our full commitment and energy. The IN3's third decade is off to a thrilling start.

David Megías Jiménez
Director

02



Organization

Organization

Who are we?



Marta Aymerich Martínez
Vice President for Strategic Planning and Research



David Megías Jiménez
Director



Mónica de Forn Riera
Deputy General Manager of Research

Executive board

Organization

Who are we?



Isabel Carol Ciurana
Management and administrative support specialist



Montserrat Mir Buxalleu
Management and administrative support specialist



Raissa Alvear Contreras
Management and administrative support specialist

Organization

Who are we?



Technical staff

Alexandre Dotor Casals
Specialist



Claudia Malpica Lander
Specialist

Organization

Who are we?



Communication staff

Goretti Brunet Gonzalez
Communication specialist

Organization

Who are we?



Research groups

Dr Israel Rodríguez Giralt

*Adjunct professor and leader of the research group
Care and Preparedness in the Network Society (CareNet)*



Dr Mireia Fernández-Ardèvol

*Senior researcher and leader of the research group
Communication Networks & Social Change (CNSC)*



Dr Javier Borge Holthoef

*Senior researcher and leader of the research group
Complex Systems @ IN3 (CoSIN3)*

Organization



Dr Mayo Fuster

*Senior researcher and leader of the research group
Digital Commons (Dimmons)*



Dr Ángel A. Juan

*Full professor and leader of the research group
Internet Computing & Systems Optimization (ICSO)*



Dr David Megías Jiménez

*Full professor, director of the IN3 and leader of the research group
K-riptography and Information Security for Open Networks (KISON)*



Dr Milagros Sáinz

*Senior researcher and leader of the research group
Gender and ICT (GenTIC)*

Organization



Dr Diana Roig-Sanz

*ERC Starting Grant holder, ICREA research professor and leader of the **Global Literary Studies Research Lab (GlobalS)***



Dr Jordi Cabot

*ICREA research professor and leader of the **Systems, Software and Models Lab (SOM Research Lab)***



Dr Ramon Ribera

*Adjunct professor and leader of the **Urban Transformation and Global Change Laboratory (TURBA Lab)***



Professor Xavier Vilajosana

*Full professor and leader of the research group at the **Wireless Networks Research Lab (WiNE)***

Knowledge and research areas

The IN3's knowledge areas line up with the research areas pursued by its 11 groups.

Care and Preparedness in the Network Society (CareNet)

Understanding the impact of technology, especially ICTs, on the new social and cultural order of care and alertness, and on crisis and disaster preparedness.

K-riptography and Information Security for Open Networks (KISON)

Researching the security and privacy of decentralized networks, and protecting intellectual property when dealing with internet-based digital content.

Internet Computing & Systems Optimization (ICSO)

Developing optimization systems to create a smarter world, and developing, analysing and optimizing internet-based computing and collaboration systems.

Gender and ICT (GenTIC)

Analysing and identifying the gender relations involved in the design, development and use of scientific and technological innovations, with particular emphasis on ICT and the STEM (science, technology, engineering and mathematics) fields.

Complex Systems @ IN3 (CoSIN3)

Exploring the underlying mechanisms in complex networked systems, based on the convergence between computational social science and urban science.

Systems, Software and Models (SOM Research Lab)

Studying systems and software engineering, especially with regard to promoting the rigorous use of software models and engineering principles in software design.

Urban Transformation and Global Change Laboratory (TURBA Lab)

Analysing the multidimensional features of socio-environmental and socio-technological transformations at the intersection of cities and digital technologies.

Communication Networks & Social Change (CNSC)

Analysing new forms of civil participation and political expression brought about by networked movements and emerging technopolitical practices, and analysing the role of mobile communication among non-central social groups, elderly people and the low-income population.

Wireless Networks Research Lab (WiNE)

Studying the manufacture of internet-connected systems, prioritizing sustainability and performance from a rational and industry convergent research perspective.

Dimmons

Researching commons, specifically as an organizational form of production (commons-based peer production, CBPP, also known as the *sharing economy* or *social innovation*).

Global Literary Studies Research Lab (GloLaS)

Analysing the history of literature from a global, decentralized and interdisciplinary perspective.

IN3 Visiting Program

The **IN3 Visiting Program** aims to create a space for interdisciplinary exchange of an international nature among researchers at different stages of their research careers. The welcoming of visiting academic staff serves a dual purpose. First, it makes it easier for researchers visiting the IN3 to find their place in a consolidated and interdisciplinary research environment. Second, it offers IN3 researchers the opportunity to learn and share knowledge, the possibility of opening up new lines of research and the consolidation, and possible expansion, of networks. The IN3 Visiting Program entails a dual commitment. The IN3 commits to providing, for the duration of the academic's stay, the necessary conditions for working. In turn, the visiting scholar commits to securing the necessary funding for their stay and to contributing, through one or more products resulting from their visit, to the IN3's interdisciplinary exchange space.

The **Visiting Program** involves a two-sided commitment. For its part, the IN3 agrees to ensure the necessary conditions for the visiting scholar to carry out their stay, from start to finish. In turn, the visiting scholar undertakes to secure the necessary funding for their stay and to contribute, through one or more products resulting from their visit, to the IN3's environment of multidisciplinary exchange.

03



The IN3 in figures

The IN3 in figures

Team 43.4 % women and 56.6 % men

Group directors
(4 women and 7 men) **11**

Predoctoral researchers
(27 women and 27 men) **54**

Postdoctoral researchers
(33 women and 43 men) **76**

Research assistants
(18 women and 21 men) **39**

Staff researchers
(1 woman and 4 men) **5**

Interns
(4 men) **4**

Visiting scholars
(5 women and 5 men) **10**
Edinburgh Napier University (UK),
University of Buenos Aires (Argentina),
University of the Republic (Uruguay),
Ramon Llull University (Spain),
University of Melbourne (Australia),
University of Parma (Italy),
University of Vic - Central University of Catalonia (Spain),
Pompeu Fabra University (Spain) and the UOC.

External collaborators
(8 women and 14 men) **22**

Publications

Articles **200**

Intergroup articles
(collaboration between two or more IN3 research groups) **5**

Open access publications **112**

Articles in conference proceedings **35**

Reviews **7**

Books **7**

Technical-professional article **1**

Book chapters **24**

Publications indexed in Web of Science (WoS) **174**

Publications indexed in Scopus **191**

Citations

Citations received in Web of Science (WoS) **367**

Citations received in Scopus **427**

Citations received in Google Scholar **638**

Theses

Doctoral theses **3**

Innovation

2021 Spin-off **1**

2021 Patents **2**

Valid patents **11**

Consultancy services **16**

The IN3 in figures

Conferences and scientific symposia

Activities organized by the IN3, drawing roughly 4,000 participants

71

Seminars

29

Conferences

2

Talks

2

Lectures

6

Presentation

1

Workshops

10

Webinars

4

Festival

1

Symposium

1

Meetings

8

Congresses

2

Round-table discussions

2

IN3 researchers took part in around 100 activities organized by other institutions, centres and organizations outside the IN3 (according to information and a subsequent follow-up report from the executive secretary's office at the IN3).

Projects

Projects awarded funding in 2021

15

2 intergroup projects awarded funding in 2021 (involving more than one IN3 research group)

2

Ongoing projects

53

Ongoing intergroup project

1

Other grants/funding and research contracts

Mobility grants with external funding

4

Contracts with external funding

9

Research contracts

2

Talent recruitment

Grants for Juan de la Cierva (JdC) contracts

2

Grant for Ramón y Cajal (RyC) contracts

1

Grants for hiring junior research staff (FI)

4

Grant for predoctoral contracts aimed at training PhD candidates (FPI)

1

Marie Skłodowska-Curie (MSCA) postdoctoral grant

1

04

*Last year we incubated the economy
Now we will scale it.*



2021 milestones

Sharing Cultures: 7th International Workshop on the Sharing Economy, Barcelona

 **70** speakers and around **131** participants

Digital Commons (Dimmons)

The **7th International Workshop on the Sharing Economy (IWSE)**, organized by the UOC Faculty of Economics and Business in collaboration with the **Dimmons** research group, took place online from 24 to 26 February. Around 70 speakers from different universities and research centres around the world discussed sharing economy research and the theoretical and methodological challenges it faces.



February

2nd ACT International Synergy Conference

 **199** participants

Gender and ICT (GenTIC)

The **2nd ACT International Synergy Conference**, organized by the **GenTIC** research group as part of the project ACT – *Communities of PrACTice for Accelerating Gender Equality and Institutional Change in Research and Innovation across Europe*, took place on 11 and 12 February. At the conference, the ACT Consortium described the contribution made towards gender equality in universities, research centres and organizations based on the concept of *communities of practice (CoP)*.

International Symposium on Global Literary Studies: Key Concepts

 **14** speakers and **35** participants

Global Literary Studies Research Lab (GloLaS)

The **International Symposium on Global Literary Studies**, organized by the **GloLaS** research group as part of the ERC project **Social Networks of the Past. Mapping Hispanic and Lusophone Literary Modernity, 1898-1959**, took place on 20 and 21 May. International scholars with expertise in various research areas (sociology of literature, novel studies, narratology, cultural transfer, translation studies, ecocriticism, digital humanities, world cinema and gender studies) came together to address the current and future directions of world literary studies from an interdisciplinary perspective.



May

June

Mundane Media Moments: Ageing, the Ordinary and Everyday Life

 **6** speakers and **40** participants

Care and Preparedness in the Network Society (CareNet) y Communication Networks & Social Change (CNSC)

The round-table discussion, organized by the **CareNet** and **CNSC** research groups as part of the project **Ageing + Communication + Technologies (ACT): Experiencing a Digital World in Later Life**, in collaboration with the **Socio-Gerontechnology Network**, took place online on 16 June. Speakers and participants discussed the role of digital media practices in the lives of older people and the possible influence of this age group on research into digital media practices.

UOC-Con 2021 New Applications and Business Opportunities Based on Blockchain Technologies

 **3** speakers and **1,670** views

K-riptography and Information Security for Open Networks (KISON)

UOC-Con 2021, organized by the KISON research group as part of the UOC's Master's Degree in Cybersecurity and Privacy, took place online on 29 June. Led by Víctor García (UOC, UAB and EBS), Jordi Estapé (Enchainté), Pau Escrich (Vocdoni) and Friman Sánchez (Smart Variable), UOC-Con 2021 explored new blockchain-based applications and business opportunities through the lens of academia and industrial experience.



June

Celebration of the IN3's 20th anniversary. The Network Society Today: (Revisiting) the Information Age Trilogy

 **9** speakers and **1,157** views

Internet Interdisciplinary Institute (IN3)

The IN3 celebrated its 20th anniversary in a hybrid event on 3 June. The IN3's anniversary coincided with a key milestone, as 2021 also marked 25 years since Professor Manuel Castells published the first volume of his trilogy *The Information Age*. As a way to commemorate these two anniversaries, the IN3 held an event titled **The Network society today: (revisiting) the information age trilogy**. Following a talk by Manuel Castells himself, called "The network society in the age of pandemics", a group of prominent figures from inside and outside the UOC-IN3 engaged in a round-table discussion focused on Castells's work and its implications for the present day.

17th European Conference on Modelling Foundations and Applications (ECMFA)

 **100** participants

Systems, Software and Models Research Lab (SOM Research Lab)

Organized by the SOM Research Lab, the **European Conference on Modelling Foundations and Applications** took place from 21 to 25 June. The conference, which is a satellite event of Software Technologies: Applications and Foundations Federated Conferences (STAF 2021), is one of the main European forums dedicated to advancing the state of knowledge and promoting the applicability of model-based engineering (MBE).



September

European Performing Science Night (EPSN)

 **604** participants

*Urban Transformation and Global Change Laboratory
(TURBA Lab)*

The European Performing Science Night, organized by the Épica-Fura dels Baus Foundation in collaboration with **TURBA Lab**, the Universitat Autònoma de Barcelona's Institute of Neuroscience, the Germans Trias i Pujol Research Institute (IGTP) and the Laboratoire Parole et Langage (CNRS, ILCB and Aix-Marseille University), took place on 25 September. With a view to breaking down stereotypes and promoting new types of participation, the EPSN welcomed the general public into the world of research through exhibitions, interactive experiences and talks.

Decidim Fest 2021: Democracy and Technology in Times of Emergency

 **30** speakers and around **450** participants (on average)

Communication Networks & Social Change (CNSC)

Decidim Fest is the yearly meeting of the Decidim project and the MetaDecidim community. Organized by the **Communication Networks & Social Change (CNSC - Tecnopolítica)** research group in collaboration with Barcelona City Council, the event took place from 20 to 22 October in several types of sessions: face-to-face, hybrid and online. Focusing on the theme of democracy, technology and social justice, **Decidim Fest 2021** delved into the relationship between technology and democracy from the perspective of global rights and justice.



October

9th Computational Social Science Conference

 **30** participants

Complex Systems @ IN3 (CoSIN3)

The **9th Computational Social Science Conference**, organized by the CoSIN3 research group in collaboration with Central European University and University College Dublin, took place on 27 October. This **Conference on Complex Systems (CCS)** satellite event (active since 2013) brought together researchers from a range of disciplines to discuss the social phenomena emerging on multiple scales in the realm of computational social science.

11th International Conference on Indoor Positioning and Indoor Navigation (IPIN)

 **114** 114 in-person participants and **85** online participants

Internet Computing & Systems Optimization (ICSO)

The **IPIN Conference**, organized by the **ICSO** research group in collaboration with the UOC Faculty of Computer Science, Multimedia and Telecommunications, the Institute of New Imaging Technologies (INIT), Universitat Jaume I and Ubik Geospatial Solutions, took place in hybrid format from 29 November to 2 December. The only one of its kind, the conference brought together industrial and academic experts in computer science, electronics and surveying to address the development and deployment of indoor positioning.

November

05

News

News



A research project seeks to ensure that older persons and people with functional diversity can live independently

Care and Preparedness in the Network Society (CareNet)



Debunking seven myths about older people's digital lives

Communication Networks & Social Change (CNSC)



Scientific formula calculates how to create more space for pedestrians in post-pandemic cities

Complex Systems @ IN3 (CoSIN3)



Barcelona City Council and the UOC launch the MatchImpulsa programme to progress with the digitization of the social and solidarity economy

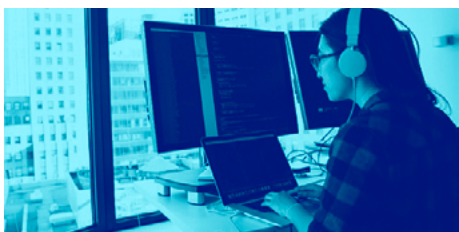
Digital Commons (Dimmons)

News



Blockchain-based copyright protect

K-riptography and Information Security for Open Networks (KISON)



Gender biases continue to hinder women's access to work in STEM fields

Gender and ICT (GenTIC)



Big data analysis makes it possible to challenge the Eurocentric view of cultural exchanges

Global Literary Environments research line (GloLaS)



UOC project lets people use open data through chatbots

Systems, Software and Models Research Lab (SOM Research Lab)

News



TURBA Lab inspires a story written for primary school children that has received an award in a science story competition

Urban Transformation and Global Change Laboratory (TURBA Lab)



Angular Technologies, an indoor alternative to GPS

Wireless Networks (WiNE)



Using sensors and artificial intelligence boosts profitability of agricultural facilities

Internet Computing & Systems Optimization (ICSO)

06



Impact and
presence

Impact and presence

Website and blog

IN3 website ([Internet Interdisciplinary Institute](#)). Since 2016.

News items



64

IN3 Blog. Since 2019.

Posts in 2021



32

New users in 2021



3,758

(67.3% more new users
than in 2020)

Logins



5,650

Impact and presence

Social media

[@IN3_UOC](#) on Twitter. Since 2010.

Followers

(as of 31 December 2021)



3,565

Tweets



699

Retweets



2,001

Likes



4,573

IN3 YouTube channel ([Internet Interdisciplinary Institute](#)). Since 2010.

163 videos,
of which **19**
are from 2021.

Views in 2021

163  + 8,123

Impact and presence

Social media

IN3 Keep Updated! (Newsletter). Since 2018.

Newsletters

sent out in 2021



23



+ 401

Subscribers

07



Awards and
recognition

Awards and recognition

Awards

Extraordinary grants for research and innovation under the Barcelona Science Plan 2020-2023

WUICOM-BCN: Barcelona *Fire Resilient Interface Communities*, a project in which the **Care and Preparedness in the Network Society (CareNet)** research group is involved, was one of seven projects out of a total of 62 proposals to receive an **extraordinary grant for research and innovation 2021** from Barcelona City Council and the “la Caixa” Foundation. **WUICOM-BCN** will carry out a holistic analysis of fire risk at Barcelona’s wildland-urban interface, paying special attention to infrastructural, social and ecosystemic vulnerabilities.

Jorge Wagensberg Prize for best doctoral thesis in the area of complex systems / Special prize for best doctoral thesis from the doctoral programme in Network and Information Technologies

María José Palazzi, predoctoral researcher in the **Complex Systems @ IN3 (CoSIN3)** research group, was awarded the **Jorge Wagensberg Prize for best doctoral thesis in the area of complex systems in 2020** by the Catalan Complex Systems Association, as well as the **special prize for best doctoral thesis from the UOC doctoral programme in Network and Information Technologies in the 2020/2021 academic year**. Her thesis is titled *Structural and dynamical interdependencies in complex networks at macro- and mesoscale: nestedness, modularity, and in-block nestedness*. It was developed as part of the UOC’s **doctoral programme in Network and Information Technologies** and was supervised by **Dr Javier Borge Holthoefer** and **Dr Albert Solé Ribalta**, from CoSIN3.

Awards and recognition

Awards

Jury prize for best entrepreneurial project

Xatkit: Massive generation of chatbots on-demand, a project undertaken by the Systems, Software and Models Research Lab (SOM Research Lab), was awarded the jury prize for best entrepreneurial project at SpinUOC 2021 (9th edition).

Best paper award at the 27th Conference on the University Teaching of Computer Science (JENUI 2021)

“Introducción de una herramienta OCL en la asignatura de Ingeniería de Requisitos”, a paper written by Dr Lola Burgueño (postdoctoral researcher), Dr Javier Cánovas (adjunct instructor at the UOC Faculty of Computer Science, Multimedia and Telecommunications and postdoctoral researcher), Dr Elena Planas (postdoctoral researcher) and Dr Jordi Cabot (ICREA research professor and director), all from the Systems, Software and Models Research Lab (SOM Research Lab), won the best paper award at the 27th Conference on the University Teaching of Computer Science (JENUI 2021).

Awards and recognition

Recognition

Dr **Rosa Borge Bravo**, adjunct professor at the UOC Faculty of Law and Political Science and researcher in the eGovernance: Electronic Administration and Democracy (GADE) research group, was appointed, this november, co-director of the **Communication Networks & Social Change (CNSC)** research group.

Dr **Milagros Sáinz Ibáñez**, senior researcher and director of the **Gender and ICT (GENTIC)** research group, and Dr **Rosa Borge Bravo** were appointed members of the UOC Doctoral School's **2021 Award for Best Interdisciplinary Thesis** Selection Committee.

Dr **Mayo Fuster Morell**, coordinator of the **Dimmons** research group, was awarded **advanced research accreditation** by the **Catalan University Quality Assurance Agency (AQU Catalunya)**.

Dr **Diana Roig-Sanz**, recipient of a **starting grant from the European Research Council (ERC)**, ICREA research professor and coordinator of the **Global Literary Studies Research Lab (GlobaLS)**, was awarded **advanced research accreditation** by the **Catalan University Quality Assurance Agency (AQU Catalunya)**.

Awards and recognition

Recognition

Laura Fólica, postdoctoral researcher at the **Global Literary Studies Research Lab (GlobalS)** and member of the ERC StG project *MapModern: Social Networks of the Past. Mapping Hispanic and Lusophone Literary Modernity, 1898-1959*, was awarded associate professor accreditation by the Catalan University Quality Assurance Agency (AQU Catalunya).

Antoni Pérez-Navarro, member of the UOC Faculty of Computer Science, Multimedia and Telecommunications and researcher with the **Internet Computing & Systems Optimization (ICSO)** group, was elected charter member of the **Open Source Geospatial Foundation (OSGeo)**. OSGeo is an international, non-profit organization that promotes the global deployment of open-source geospatial technology.

Ángel A. Juan, full professor and director of **Internet Computing & Systems Optimization (ICSO)**, was one of the most cited scientists in 2021 according to the **World's Top 2% Scientists** ranking. The result of collaboration between Stanford University, Elsevier and SciTech Strategies, this ranking recognizes scientists whose work is among the most cited. Juan was also one of the 100 scientists recognized in the **ranking of the 100 most important researchers in the field of mathematics living in Spain**.

01

Appendix 1
Scientific
publications

Appendix 1: Scientific publications

Care and Preparedness in the Network Society (CareNet)

Articles

Jiménez-Alonso, B. & De Luna, I. B. (2021). **Narratives of Loss: Exploring Grief through Photography**. *Qualitative Studies*, 6 (1), 91-115. DOI: <https://doi.org/10.7146/qs.v6i1.124433>.

Jiménez-Alonso, B. & Brescó de Luna, I. (2021). **Grief, photography and meaning making: A psychological constructivist approach**. *Culture & Psychology*, 1-26. DOI: [10.1177/1354067X211015416](https://doi.org/10.1177/1354067X211015416). Quartile: ISI JCR: Q3 | SCOPUS SJR: Q1.

López Gómez, D., Beneito Montagut, R. & García-Santesmases Fernández, A. (2021). **No future for care without new digital media? Making time(s) for mediated informal care practices in later life**. *International Journal of Cultural Studies*, 24 (4), 637-654. DOI: [10.1177/1367877920951818](https://doi.org/10.1177/1367877920951818). Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Moyà-Köhler, J. (2021). **Habitar en recursos residenciales, trabajar donde el otro está viviendo**. *Siglo Cero Revista Española Sobre Discapacidad Intelectual*, 52 (4), 195-196. Quartile: SCOPUS SJR: Q2.

Moyà-Köhler, J. & Domènech Argemí, M. (2021). **Autonomías precarias: un análisis sobre las tecnologías para personas con diversidad funcional intelectual**. *Teknokultura. Revista de Cultura Digital y Movimientos Sociales*, 18 (2), 127-135. DOI: [10.5209/tekn.74375](https://doi.org/10.5209/tekn.74375).

Pié Balaguer, A. (2021). **La verdad de los monstruos**. *Educación artística: revista de investigación*, 12, 314-325. DOI: [10.7203/eari.12.19765](https://doi.org/10.7203/eari.12.19765).

Salas Soneira, M., Pié Balaguer, A. & Morán de Castro, M.C. (2021). **Disidencias [y resistencias] de género. Una aproximación interseccional a la patologización de la diferencia**. *Temps d'Educació*, 60, 301-317. DOI: [10.1344/TE2021.60.15](https://doi.org/10.1344/TE2021.60.15).

Salas Soneira, M. & Pié Balaguer, A. (2021). **Arqueología del dolor. Un (re) encuentro con Paulo Freire e Iván Illich para aprender del sufrimiento**. *Revista Ideação*, 23 (1), 213-235. DOI: [10.48075/riv.23i1.26709](https://doi.org/10.48075/riv.23i1.26709).

Books

Del Romero Renau, L., Valera, A. & La Roca Cervigón, N. (2021). ***En busca de La Ferté. Un viaje por el patrimonio industrial y minero abandonado de Teruel***. Asociación Recartografías.

García González, I. & Arenas Conejo, M. (2021). ***Docència en línia amb perspectiva de gènere: guies per a una docència universitària amb perspectiva de gènere***. Xarxa Vives d'Universitats.

Pié Balaguer, A. & Planella Ribera, J. (2021). ***Corpografías de la discapacidad. ¿Puede la pedagogía escapar del cuerpo?*** Lugar Editorial. (*In collaboration with the Laboratory of Social Education at the Universitat Oberta de Catalunya.*)

Pié Balaguer, A.; Salas Soneira, M. & Morán de Castro, C. (2021). ***La locura rev(b) elada. Narrativas, experiencias y saberes encarnados***. CAMBALACHE.

Pié Balaguer, A. (2021). ***Soltar amarras: una introducción a la salud mental colectiva***. Editorial UOC.

Appendix 1: Scientific publications

Care and Preparedness in the Network Society (CareNet)

Book chapters

Arenas Conejo, M. (2021). **A través del espejo: ¿pueden las artes contribuir a cambiar la mirada sobre la discapacidad física?**. In Pié Balaguer, A., Planella Ribera, J., *Corpografías de la discapacidad. ¿Puede la pedagogía escapar del cuerpo?* (pp. 119-132). Lugar Editorial.

Beneito-Montagut, R. & Begueria, A. (2021). **Send me a WhatsApp When you arrive home: Mediated practices of caring about.** In Peine, A., Marshall, B., Martin, W., Neven, L., *Socio-Gerontechnology: Interdisciplinary Critical Studies of Ageing and Technology* (pp. 119-132). Routledge.

Fabiola Nava, L. & Torres, Bernardino, L. (2021). **Conflictividad asociada a grandes obras hidráulicas: El pantano de Jánovas, España y la presa Tenosique, México.** In Del Romero Renau, L. Castro, H., Lozano Valera, A. (ed.), *Conflictividad ambiental y territorial en América Latina y Europa*. Tirant Lo Blanch.

Gómez, D. L. & Criado, T. S. (2021). **Civilising technologies for an ageing society? The performativity of participatory methods in Socio-gerontechnology.** In Peine, A., Marshall, B., Martin, W., Neven, L., *Socio-Gerontechnology: Interdisciplinary Critical Studies of Ageing and Technology* (pp. 85-98). Routledge.

Press publications

Ottolini, Isabeau & Manzano, Pablo (3 Febrero, 2021). **Mediar entre humanos para conservar a los lobos.** The Conversation. URL: <https://theconversation.com/mediar-entre-humanos-para-conservar-a-los-lobos-152430>.

Communication Networks & Social Change (CNSC)

Articles

Acosta, L., Cardona Arango, D., Vilton Costa, J., Delgado, A., Freire, F.H., Garay, S., Gómez-León, M., Paredes Della Croce, M., Peláez, E., Rodríguez Rodríguez, V., Rojo-Pérez, F. & Silva-Ramirez, R. (2021). **Las personas mayores frente al COVID-19: tendencias demográficas y acciones políticas.** *Revista Latinoamericana de Población*, 15 (29), 64-117. DOI: 10.31406/relap2021.v15.i2.n29.3.

Dos Santos Dias, T. & von Bülow, M., Gobbi, D. (2021). **Populist Framing Mechanisms and the Rise of Right-wing Activism in Brazil.** *Latin American Politics and Society*, 63 (Special 3), 69-92. DOI: 10.1017/lap.2021.22. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Fischer, B., Östlund, B., Dalmer, N.K., Rosales Climent, A., Peine, A., Loos, E., Neven, L. & Marshall, B. (2021). **Co-Design as Learning: The Differences of Learning When Involving Older People in Digitalization in Four Countries.** *Societies*, 11 (2), 1-16. DOI: 10.3390/soc11020066.

Appendix 1: Scientific publications

Communication Networks & Social Change (CNSC)

Jiménez, A. & Cancela, E. (2021). Surveillance Punitivism: Colonialism, Racism and State Terrorism in Spain. *Surveillance & Society*, 19 (3), 374-378. DOI: 10.24908/ss.v19i3.15009. Quartile: SCOPUS SJR: Q1.

Rosales Climent, A. & Blanche-Tarragó, D. (2021). Explicit and Implicit Intergenerational Digital Literacy Dynamics: How Families Contribute to Overcome the Digital Divide of Grandmothers. *Journal of Intergenerational Relationships*, 1-19. DOI: 10.1080/15350770.2021.1921651. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Rosales Climent, A. & Svensson, J. (2021). Perceptions of age in contemporary tech. *Nordicom Review*, 42 (1), 79-91. DOI: 10.2478/nor-2021-0021. Quartile: SCOPUS SJR: Q1.

Articles in conference proceedings

Loos, E., Peine, A. & Fernández-Ardèvol, M. (2021). Older People as Early Adopters and Their Unexpected and Innovative Use of New Technologies: Deviating from Technology Companies' Scripts. In Gao, Q., Zhou, J. (ed.), *Lecture Notes in Computer Science: Vol. 12786. Human Aspects of IT for the Aged Population. Technology Design and Acceptance* (pp. 156-167). Springer. DOI: 10.1007/978-3-030-78108-8_12. Quartile: SCOPUS SJR: Q3. (In collaboration with the Kriptography and Information Security for Open Networks [KISON] research group at the IN3.)

Megías, D., Kuribayashi, M., Rosales, A. & Mazurczyk, W. (2021). DISSIMILAR: Towards fake news detection using information hiding, signal processing and machine learning. In *ARES 2021: The 16th International Conference on Availability, Reliability and Security* (pp. 1-9). Association for Computing Machinery. DOI: 10.1145/3465481.3470088. (In collaboration with the Kriptography and Information Security for Open Networks [KISON] research group at the IN3.)

Complex Systems @ IN3 (CoSIN3)

Articles

Bustos, C., Rhoads, D., Solé-Ribalta, A., Masip, D., Arenas Moreno, A., Lapedriza, A. & Borge-Holthoefer, J. (2021). Explainable, automated urban interventions to improve pedestrian and vehicle safety. *Transportation Research, Part C: Emerging Technologies*, 125, Article 103018. DOI: 10.1016/j.trc.2021.103018. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1. (In collaboration with the Scene Understanding and Artificial Intelligence Lab [SUNAI] at the Universitat Oberta de Catalunya.)

Calleja-Solanas, V., Pigani, E., Palazzi Nieves, M.J.P., Solé-Ribalta, A., Suweis, S., Borge-Holthoefer, J. & Meloni, S. (2021). Quantifying the drivers behind collective attention in information ecosystems. *Journal of Physics: Complexity*, 2 (4), 1-15. DOI: 10.1088/2632-072X/ac35b6.

Lampo, A., Borge-Holthoefer, J., Gómez Jiménez, S. & Solé-Ribalta, A. (2021). Multiple abrupt phase transitions in urban transport congestion. *Physical Review Research*, 3 (1), 1-17. DOI: 10.1103/PhysRevResearch.3.013267.

Appendix 1: Scientific publications

Complex Systems @ IN3 (CoSIN3)

Lampo, A., Borge-Holthoefer, J., Gómez Jiménez, S. & Solé-Ribalta, A. (2021). **Emergence of spatial transitions in urban congestion dynamics**. *Applied Network Science*, 6 (1), 1-16. DOI: 10.1007/s41109-021-00383-6. Quartile: SCOPUS SJR: Q1.

Lampo, A., Palazzi Nieves, M.J., Borge-Holthoefer, J. & Solé-Ribalta, A. (2021). **Hybrid structural arrangements mediate stability and feasibility in mutualistic networks**. *arXiv:2105.09191*.

Palazzi Nieves, M.J., Lampo, A., Solé-Ribalta, A. & Borge-Holthoefer, J. (2021) **A comprehensive benchmark for structural assessment in bipartite networks**. *bioRxiv*.

Mariani, M., Palazzi Nieves, M.J.P., Solé-Ribalta, A., Borge-Holthoefer, J. & Tessone, C.J. (2021). **Absence of a resolution limit in in-block nestedness**. *Communications in Nonlinear Science and Numerical Simulation*, 94, 1-14. DOI: 10.1016/j.cnsns.2020.105545. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1. (In collaboration with the Scene Understanding and Artificial Intelligence Lab at the Universitat Oberta de Catalunya.)

Palazzi Nieves, M.J.P., Solé-Ribalta, A., Calleja-Solanas, V., Meloni, S., Plata, C., Suweis, S. & Borge-Holthoefer, J. (2021). **An ecological approach to structural flexibility in online communication systems**. *Nature Communications*, 12 (1), 1-11. DOI: 10.1038/s41467-021-22184-2. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Plata, C., Pigani, E., Azaele, S., Calleja-Solanas, V., Palazzi Nieves, M.J.P., Solé-Ribalta, A., Borge-Holthoefer, J., Meloni, S. & Suweis, S. (2021). **Neutral theory for competing attention in social networks**. *Physical Review Research*, 3 (1), 1-12. DOI: 10.1103/PhysRevResearch.3.013070.

Rhoads, D., Solé-Ribalta, A., González, M.C. & Borge-Holthoefer, J. (2021). **A sustainable strategy for Open Streets in (post)pandemic cities**. *Communications Physics*, 4 (1), 1-12. DOI: 10.1038/s42005-021-00688-z. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Articles in conference proceedings

C. Bustos, N. Elhaouij, A. Solé-Ribalta, J. Borge-Holthoefer, A. Lapedriza & R. Picard, **Predicting Driver Self-Reported Stress by Analyzing the Road Scene**. In *2021 9th International Conference on Affective Computing and Intelligent Interaction (ACII)* (pp. 1-8). DOI: 10.1109/ACII52823.2021.9597438.

Sánchez-Pozo, N.N., Trilles-Oliver, S., Solé-Ribalta, A., Lorente-Leyva, L.L., Mayorca-Torres, D. & Peluffo-Ordóñez, D.H. (2021). **Algorithms Air Quality Estimation: A Comparative Study of Stochastic and Heuristic Predictive Models**. In Sanjurjo González, H., Pastor López, I., García Bringas, P., Quintián, H., Corchado, E. (ed.) *Lecture Notes in Computer Science, Vol 12886. Hybrid Artificial Intelligent Systems. HAIS 2021* (pp. 293-304). Springer. DOI: 10.1007/978-3-030-86271-8_25.

Appendix 1: Scientific publications

Digital Commons (Dimmons)

Articles

Cigarini, A., Bonhoure, I., Vicens, J. & Perelló, J. (2021). **Public libraries embrace citizen science: Strengths and challenges**. *Library & Information Science Research*, 43 (2), 1-8. DOI: 10.1016/j.lisr.2021.101090. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Fuster Morell, M., Espelt, R. & Senabre-Hidalgo, E. (2021). **Data for Sustainable Platform Economy: Connections between Platform Models and Sustainable Development Goals**. *Data*, 6 (2), 1-11. DOI: 10.3390/data6020007. Quartile: SCOPUS SJR: Q2.

Fuster Morell, M., Espelt, R. & Renau Cano, M. (2021). **Cooperativismo de plataforma: Análisis de las cualidades democráticas del cooperativismo como alternativa económica en entornos digitales**. *CIRIEC-España, revista de economía pública, social y cooperativa*, 102, 5-31. DOI: 10.7203/CIRIEC-E.102.18429. Quartile: SCOPUS SJR: Q1.

Grau-Sarabia, M. & Fuster-Morell, M. (2021). **Gender approaches in the study of the digital economy: a systematic literature review**. *Humanit Soc Sci Commun*, 8, Article 201. DOI: 10.1057/s41599-021-00875-x.

Martín Belmonte, S., Puig, J., Roca, M. & Segura, M. (2021). **Crisis Mitigation through Cash Assistance to Increase Local Consumption Levels—A Case Study of a Bimonetary System in Barcelona, Spain**. *Journal of Risk and Financial Management*, 14 (9), Article 430. DOI: 10.3390/jrfm14090430.

Moreira, S. & Parente, C. (2021). **“Otras economías” en Portugal**. *Otra Economía. Revista Latinoamericana de Economía Social y Solidaria*, 14 (26), 176-206.

Moreira, S. & Parente, C. (2021). **Transformative Communication Radar: Practices, Action and Praxis Communication in Solidarity Economy Networks in Portugal and Catalonia**. *TripleC*, 19 (2), 438-458.

Perelló, J., Cigarini, A., Vicens, J., Bonhoure, I., Rojas-Rueda, D., Nieuwenhuijsen, M.J., Cirach, M., Daher, C., Targa, J. & Ripoll, A. (2021). **Large-scale citizen science provides high-resolution nitrogen dioxide values and health impact while enhancing community knowledge and collective action**. *Science of the Total Environment*, 789, 1-16. DOI: 10.1016/j.scitotenv.2021.147750. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Renau Cano, M., Espelt, R. & Fuster Morell, M. (2021). **Flexibility and freedom for whom? Precarity, freedom and flexibility in on-demand food delivery**. *Work Organisation, Labour & Globalisation*, 15 (1), 46-68. DOI: 10.13169/workorgalaboglob.15.1.0046. Quartile: SCOPUS SJR: Q2.

Renau Cano, M., Fuster Morell, M. & Espelt, R. (2021). **Democratizando la economía de plataforma**. *Oikonomics*, 15.

Appendix 1: Scientific publications

Digital Commons (Dimmons)

Rocas-Royo, M. (2021). The Blockchain That Was Not: The Case of Four Cooperative Agroecological Supermarkets. *Frontiers in Blockchain*, 4, 1-10. DOI: 10.3389/fbloc.2021.624810.

Articles in conference proceedings

Hergueux, J., Algan, Y., Benkler, Y. & Fuster-Morell, M. (2021). Do I Trust this Stranger? Generalized Trust and the Governance of Online Communities. In Leskovec, J., Grobelnik, M., Najork, M., Tang, J., Zia, L. (Eds.) *The Web Conference 2021 - Companion of the World Wide Web Conference, WWW 2021* (pp. 539–543). Association for Computing Machinery. DOI: 10.1145/3442442.3452338.

Book chapters

Senabre Hidalgo E., Perelló J., Becker E., Bonhoure I., Legris M. & Cigarini A. (2021) Participation and Co-creation in Citizen Science. In Vohland K. et al. (ed). *The Science of Citizen Science* (pp. 119-218). Springer.

Internet Computing & Systems Optimization (ICSO)

Articles

Alvarez-Palau, E., Calvet-Liñan, L., Viu Roig, M., Gandouz, M. & Juan, A.A. (2021). Economic profitability of last-mile food delivery services: Lessons from Barcelona. *Research in Transportation Business & Management*, 1-12. DOI: 10.1016/j.rtbm.2021.100659. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q1 (*In collaboration with the Sustainability, Management and Transport [SUMAT] research group at the Universitat Oberta de Catalunya.*)

Alvarez-Fernandez, S.M., Ferone, D., Juan, A.A. & Tarchi, D. (2021). A simheuristic algorithm for video streaming flows optimisation with QoS threshold modelled as a stochastic single-allocation p-hub median problem. *Journal of Simulation*. DOI: 10.1080/17477778.2020.1863754. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Arguedas, M. & Daradoumis, T. (2021). Analysing the role of a pedagogical agent in psychological and cognitive preparatory activities. *Journal of Computer Assisted Learning*, 37 (4), 1167-1180. DOI: 10.1111/jcal.12556. Quartile:

ISI JCR: Q1 | SCOPUS SJR: Q1 (*In collaboration with the Technology-Enhanced Knowledge and Interaction [Teking] research group at the Universitat Oberta de Catalunya.*)

Bayliss, C., Currie, C., Bennell, J. & Martínez-Sykora, A. (2021). Queue-cons-trained packing: A vehicle ferry case study. *European Journal of Operational Research*, 289 (2), 727-741. DOI: 10.1016/j.ejor.2020.07.027. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Bayliss, C., Panadero, J., Calvet-Liñan, L. & Marquès, J. (2021). Reliability in volunteer computing micro-blogging services. *Future Generation Computer Systems*, 115, 857-871. DOI: 10.1016/j.future.2020.09.034. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Buil, R., de Armas, J., Riera-Terrén, D. & Orozco, S. (2021). Optimization of the real-time response to roadside incidents through heuristic and linear programming. *Mathematics*, 9 (16), 1-20. DOI: 10.3390/math9161982. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q2.

Appendix 1: Scientific publications

Internet Computing & Systems Optimization (ICSO)

Cesarano, L., Croce, A., Do Carmo Martins, L., Tarchi, D. & Juan, A.A. (2021). **A Real-Time Energy-Saving Mechanism in Internet of Vehicles Systems.** *IEEE Access*, 9, 157842-157858. DOI: 10.1109/ACCESS.2021.3130125. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Daradoumis, T., Marquès, J., Arguedas, M. & Calvet-Liñan, L. (2021). **A distributed systems laboratory that helps students accomplish their assignments through self-regulation of behavior.** *Educational Technology Research and Development*, 69 (2), 1077-1099. DOI: 10.1007/s11423-021-09975-6. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1 (*In collaboration with the Technology-Enhanced Knowledge and Interaction [Teking] research group at the Universitat Oberta de Catalunya.*)

Del Río, A., Aranguren, I., Oliva, D., Abd Elaziz, M. & Cuevas, E. (2021). **Efficient image segmentation through 2D histograms and an improved owl search algorithm.** *International Journal of Machine Learning and Cybernetics*, 12 (1), 131-150. DOI: 10.1007/s13042-020-01161-z. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

De la Torre, R., Corlu, C., Faulín, F., Onggo, B. S. & Juan, A.A. (2021). **Simulation, Optimization, and Machine Learning in Sustainable Transportation Systems: Models and Applications.** *Sustainability*, 13 (3), 1-21. DOI: 10.3390/su13031551. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

De la Torre, R., Onggo, B. S., Corlu, C., Nogal, M. & Juan, A.A. (2021). **The Role of Simulation and Serious Games in Teaching Concepts on Circular Economy and Sustainable Energy.** *Energies*, 14 (4), 1-21. DOI: 10.3390/en14041138. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Do Carmo Martins, L., de la Torre, R., Corlu, C., Juan, A.A. & Masmoudi, M.A. (2021). **Optimizing ride-sharing operations in smart sustainable cities: Challenges and the need for agile algorithms.** *Computers & Industrial Engineering*, 153, 1-17. DOI: 10.1016/j.cie.2020.107080.

Do Carmo Martins, L., Gonzalez-Neira, E.M., Hatami, S., Juan, A.A. & Montoya Torres, J. (2021). **Combining production and distribution in supply chains: The hybrid flow-shop vehicle routing problem.** *Computers & Industrial Engineering*, 159, 1-12. DOI: 10.1016/j.cie.2021.107486. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Do Carmo Martins, L., Hirsch, P. & Juan, A.A. (2021). **Agile optimization of a two-echelon vehicle routing problem with pickup and delivery.** *International Transactions in Operational Research*, 28 (1), 201-221. DOI: 10.1111/itor.12796. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Do Carmo Martins, L., Tordecilla, R.D., Castañeda, J., Juan, A.A. & Faulín, F. (2021). **Electric Vehicle Routing, Arc Routing, and Team Orienteering Problems in Sustainable Transportation.** *Energies*, 14 (16), 1-30. DOI: 10.3390/en14165131. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Appendix 1: Scientific publications

Internet Computing & Systems Optimization (ICSO)

Do Carmo Martins, L., Tarchi, D., Juan, A.A. & Fusco, A. (2021). **Agile optimization for a real-time facility location problem in Internet of Vehicles networks.** *Networks*, 1-14. DOI: 10.1002/net.22067. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Ferrer, A.J., Panadero, J., Marquès, J. & Jorba, J. (2021). **Admission Control for Ad-hoc Edge Cloud.** *Future Generation Computer Systems*, 114, 548-562. DOI: 10.1016/j.future.2020.08.024. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1 (*In collaboration with the Wireless Networks Research Lab [WiNE] at the IN3.*)

Hassana, A., Reyes-Rubiano, L., Ouelhadj, D., Faulín, F. & Juan, A.A. (2021). **Modelling and multi-criteria analysis of the sustainability dimensions for the green vehicle routing problem.** *European Journal of Operational Research*, 292 (1), 143-154. DOI: 10.1016/j.ejor.2020.10.028. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Houssein, E., Helmy, B., Oliva, D., Elngar, A. & Shaban, H. (2021). **A novel Black Widow Optimization algorithm for multilevel thresholding image segmentation.** *Expert Systems with Applications*, 167, 1-25. DOI: 10.1016/j.eswa.2020.114159. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Juan, A.A., Keenan, P., Martí, R., McGarraghy, S., Panadero, J., Carroll, P. & Oliva, D. (2021). **A review of the role of heuristics in stochastic optimisation: from metaheuristics to learnheuristics.** *Annals of Operations Research*, 1-31. DOI: 10.1007/s10479-021-04142-9. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Keenan, P., Panadero, J., Juan, A.A., Martí, R. & McGarraghy, S. (2021). **A strategic oscillation simheuristic for the Time Capacitated Arc Routing Problem with stochastic demands.** *Computers & Operations Research*, 133, 1-12. DOI: 10.1016/j.cor.2021.105377. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Latorre-Biel, J.I., Ferone, D., Juan, A.A. & Faulín, F. (2021). **Combining simheuristics with Petri nets for solving the stochastic vehicle routing problem with correlated demands.** *Expert Systems with Applications*, 168, 1-11. DOI: 10.1016/j.eswa.2020.114240. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Londoño, J., Tordecilla, R.D., Do Carmo Martins, L. & Juan, A.A. (2021). **A biased-randomized iterated local search for the vehicle routing problem with optional backhauls.** *TOP*, 29 (2), 387-416. DOI: 10.1007/s11750-020-00558-x. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Macharia, P., Pérez Navarro, A., Inwani, I., Nduati, R. & Carrión, C. (2021). **An Exploratory Study of Current Sources of Adolescent Sexual and Reproductive Health Information in Kenya and Their Limitations: Are Mobile Phone Technologies the Answer?.** *International Journal of Sexual Health*, 33 (3), 357-370. DOI: 10.1080/19317611.2021.1918311. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1 (*In collaboration with the eHealth Lab at the Universitat Oberta de Catalunya.*)

Appendix 1: Scientific publications

Internet Computing & Systems Optimization (ICSO)

Malegiannaki, I., Daradoumis, T. & Retalis, S. (2021). **Using a Story-Driven Board Game to Engage Students and Adults With Cultural Heritage**. *International Journal of Game-Based Learning*, 11 (2), 1-19. DOI: 10.4018/IJGBL.2021040101. Quartile: SCOPUS SJR: Q3.

Marmol, M., Goyal, A., Copado, P., Panadero, J. & Juan, A.A. (2021). **Maximizing customers' lifetime value using limited marketing resources**. *Marketing Intelligence & Planning*. DOI: 10.1108/MIP-02-2021-0050. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Marquès, J., Calvet-Liñan, L., Arguedas, M., Daradoumis, T. & Mor, E. (2021). **Using a Notification, Recommendation and Monitoring System to Improve Interaction in an Automated Assessment Tool: An Analysis of Students' Perceptions**. *International Journal of Human-Computer Interaction*, 1-20. DOI: 10.1080/10447318.2021.1938400. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2 (In collaboration with the Technology-Enhanced Knowledge and Interaction [Teking] and DARTS research groups at the Universitat Oberta de Catalunya.)

Marquès, J., Daradoumis, T., Arguedas, M. & Calvet-Liñan, L. (2021). **Using a distributed systems laboratory to facilitate students' cognitive, metacognitive and critical thinking strategy use**. *Journal of Computer Assisted Learning*, 1-14. DOI: 10.1111/jcal.12605. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1 (In collaboration with the Technology-Enhanced Knowledge and Interaction [Teking] research group at the Universitat Oberta de Catalunya.)

Martínez-Sykora, A., So, M.C., Currie, C., Bayliss, C. & Bennell, J. (2021). **Optimizing pricing and packing of variable-sized cargo**. *IMA Journal of Management Mathematics*, 32 (3), 303-327. DOI: 10.1093/imaman/dpaa021. Quartile: ISI JCR: Q4 | SCOPUS SJR: Q2.

Onggo, B. S., Corlu, C., Juan, A.A., Monks, T. & de la Torre, R. (2021). **Combining symbiotic simulation systems with enterprise data storage systems for real-time decision-making**. *Enterprise Information Systems*, 15 (2), 230-247. DOI: 10.1080/17517575.2020.1777587. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2.

Panadero, J., Ammouriova, M., Juan, A.A., Agustín Martín, Alba, Nogal, M. & Serrat, C. (2021). **Combining parallel computing and biased randomization for solving the team orienteering problem in real-time**. *Applied Sciences*, 11 (24), 1-18. DOI: 10.3390/app112412092. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2.

Panadero, J., Selimi, M., Calvet-Liñan, L., Marquès, J. & Freitag, F. (2021). **A two-stage Multi-Criteria Optimization method for service placement in decentralized edge micro-clouds**. *Future Generation Computer Systems*, 121, 90-105. DOI: 10.1016/j.future.2021.03.013. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Pérez Navarro, A. & Conesa, J. (2021). **Students perception of videos in introductory physics courses of engineering in face-to-face and online environments**. *Multimedia Tools and Applications*, 80 (1), 1009-1028. DOI: 10.1007/s11042-020-09665-0. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1 (In collaboration with the SMARTLEARN research group at the Universitat Oberta de Catalunya.)

Appendix 1: Scientific publications

Internet Computing & Systems Optimization (ICSO)

Pérez Navarro, A., García, Víctor & Conesa, J. (2021). **Students' Behavior and Perceptions Regarding Complementary Videos for Introductory Physics Courses in an Online Environment**. *Applied Sciences*, 11 (2), 1-22. DOI: 10.3390/app11020523. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2 (*In collaboration with the SMARTLEARN research group at the Universitat Oberta de Catalunya.*)

Peyman, M., Copado, P., Tordecilla, R.D., Do Carmo Martins, L., Xhafa, F. & Juan, A.A. (2021). **Edge Computing and IoT Analytics for Agile Optimization in Intelligent Transportation Systems**. *Energies*, 14 (19), 1-26. DOI: 10.3390/en14196309. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Potorti, F., Torres Sospedra, J., Quezada-Gaibor, D., Jiménez, A., Seco, F., Pérez Navarro, A., Ortiz, M., Zhu, N., Ranaudin, V., Ichikari, R., Shimomura, R., Ohta, N., Nagae, S., Kurata, T., Wei, D., Ji, X., Zhang, W., Kram, S., Stahlke, M., Mutschler, C., Crivello, A., Barsocchi, P., Girolami, M., Palumbo, F., Chen, R., Wu, Y., Li, W., Yu, Y., Xu, S., Huang, L., Liu, T., Kuang, J., Niu, X., Yoshida, T., Nagata, Y., Fukushima, Y., Fukatani, N., Hayashida, N., Asai, Y.,

Urano, K., Ge, W., Lee, N.-T., Fang, S.-H., Jie, Y.-C., Young, S.-R., Chien, Y.-R., Yu, C.-C., Ma, C., Wu, B., Zhang, W., Wang, Y., Fan, Y., Poslad, S., Selviah, D., Wang, W., Yuan, H., Yonamoto, Y., Yamaguchi, M., Kaichi, T., Zhou, B., Liu, X., Gu, Z., Yang, C., Wu, Z., Xie, D., Huang, C., Zheng, L., Peng, A., Jin, G., Wang, Q., Luo, H., Xiong, H., Bao, L., Zhang, P., Zhao, F., Yu, C.-A., Hung, C.-H., Antsfeld, L., Chidlovskii, B., Jiang, H., Xia, M., Yan, D., Li, Y., Dong, Y., Silva, I., Pendão, C., Meneses, F., Nicolau, M.J., Costa, A., Moreira, A., De Cock, C., Plets, D., Opiela, M., Dzama, J., Zhang, L., Li, H., Chen, B., Liu, Y., Yean, S., Lim, B.Z., Teo, W.J., Lee, B.S. & Oh, H.L. (2021). **Off-line Evaluation of Indoor Positioning Systems in Different Scenarios: The Experiences from IPIN 2020 Competition**. *IEEE Sensors Journal*, 22 (6), 1-47. DOI: 10.1109/JSEN.2021.3083149. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Quintero Araujo, C.L., Guimarans, D. & Juan, A.A. (2021). **A simheuristic algorithm for the capacitated location routing problem with stochastic demands**. *Journal of Simulation*, 15 (3), 217-234. DOI: 10.1080/17477778.2019.1680262. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Tordecilla, R.D., Copado, P., Panadero, J., Quintero Araujo, C.L., Montoya Torres, J. & Juan, A.A. (2021). **Combining Heuristics with Simulation and Fuzzy Logic to Solve a Flexible-Size Location Routing Problem under Uncertainty**. *Algorithms*, 14 (2), 1-23. DOI: 10.3390/a14020045. Quartile: SCOPUS SJR: Q3.

Tordecilla, R.D., Do Carmo Martins, L., Panadero, J., Copado, P., Perez-Bernabeu, E. & Juan, A.A. (2021). **Fuzzy Simheuristics for Optimizing Transportation Systems: Dealing with Stochastic and Fuzzy Uncertainty**. *Applied Sciences*, 11 (17), 1-22. DOI: 10.3390/app11177950. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2.

Tordecilla, R.D., Do Carmo Martins, L., Saiz, M., Copado, P., Panadero, J. & Juan, A.A. (2021). **Agile Computational Intelligence for Supporting Hospital Logistics During the COVID-19 Crisis**. *Modeling and Optimization in Science and Technologies*, 18, 383-407. DOI: 10.1007/978-3-030-72929-5_18.

Appendix 1: Scientific publications

Internet Computing & Systems Optimization (ICSO)

Tordecilla, R.D., Juan, A.A., Montoya Torres, J., Quintero Araujo, C.L. & Panadero, J. (2021). **Simulation-optimization methods for designing and assessing resilient supply chain networks under uncertainty scenarios: A review**. *Simulation Modelling Practice and Theory*, 106, 1-23. DOI: 10.1016/j.simpat.2020.102166. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q2.

Tsortanidou, X., Daradoumis, T. & Barberà, E. (2021). **Waldorf inspired hyper-imaginative learning trajectories: developing new media literacies in elementary education**. *Early Child Development and Care*, 191 (7-8), 1287-1301. DOI: 10.1080/03004430.2020.1835881. Quartile: ISI JCR: Q4 | SCOPUS SJR: Q2.

Tsortanidou, X., Daradoumis, T. & Barberà, E. (2021). **A K-6 computational thinking curricular framework: pedagogical implications for teaching practice**. *Interactive Learning Environments*, 1-21. DOI: 10.1080/10494820.2021.1986725. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Villarinho, P., Panadero, J., Pessoa, Luciana S., Juan, A.A. & Oliveira, F.L.C. (2021). **A simheuristic algorithm for the stochastic permutation flow-shop problem with delivery dates and cumulative payoffs**. *International Transactions in Operational Research*, 28 (2), 716-737. DOI: 10.1111/itor.12862. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Xhafa, F., Aly, A. & Juan, A.A. (2021). **Allocation of applications to Fog resources via semantic clustering techniques: with scenarios from intelligent transportation systems**. *Computing*, 103 (3), 361-378. DOI: 10.1007/s00607-020-00867-w. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2.

Zhao, D., Liu, L., Yu, F., Heidari, A.A., Wang, M., Oliva, D., Muhammad, K. & Chen, H. (2021). **Ant colony optimization with horizontal and vertical crossover search: Fundamental visions for multi-threshold image segmentation**. *Expert Systems with Applications*, 167, 1-38. DOI: 10.1016/j.eswa.2020.114122. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Articles in conference proceedings

Buil, R., Garcia, S., de Armas, J. & Riera-Terrén, D. (2021). **Improving the Location of Roadside Assistance Resources Through Incident Forecasting**. In *Lecture Notes in Computer Science, Vol. 13004, Computational Logistics, ICCL 2021* (pp. 518-531). Springer. DOI: 10.1007/978-3-030-87672-2_34. Quartile: SCOPUS SJR: Q3.

Calvet-Liñan, L., Alvarez-Palau, E., Viu Roig, M., Castillo, C., Copado, P. & Juan, A.A. (2021). **Promoting Sustainable and Intelligent Freight Transportation Systems in the Barcelona Metropolitan Area**. *Transportation Research Procedia*, 58, 408-415. DOI: 10.1016/j.trpro.2021.11.055 (In collaboration with the Sustainability, Management and Transport [SUMAT] research group at the Universitat Oberta de Catalunya.)

Appendix 1: Scientific publications

Internet Computing & Systems Optimization (ICSO)

Cardona, J.F., Castañeda, J., Do Carmo Martins, L., Gandouz, M., Juan, A.A. & Franco, G. (2021). **Using Data Analytics & Machine Learning to Design Business Interruption Insurance Products for Rail Freight Operators**. *Transportation Research Procedia*, 58, 393-400. DOI: 10.1016/j.trpro.2021.11.053.

Castañeda, J., Cardona, J.F., Do Carmo Martins, L. & Juan, A.A. (2021). **Supervised Machine Learning Algorithms for Measuring and Promoting Sustainable Transportation and Green Logistics**. *Transportation Research Procedia*, 58, 455-462. DOI: 10.1016/j.trpro.2021.11.061.

Cobarsí, J., & Calvet, L. (2021). **Quantitative data about deaths due to COVID-19 and comparability between countries: An approach through the case of Spain**. In Adrot, A., Grace, R., Moore, K. & Zobel, C. *18th International Conference on Information Systems for Crisis Response and Management (ISCRAM 2021)* (pp. 294-304) (In collaboration with the Knowledge and Information Management in Organizations [KiMO] research group at the Universitat Oberta de Catalunya.)

Fakhimi, M., Robertson, D., Boness, T., Nieto, M. A., Juan, A. A., Bayliss, C., & Kizys, R. (2021). **Asset and liability management in insurance firms: A biased-randomised approach combining heuristics with monte-carlo simulation**. *Proceedings of the Operational Research Society Simulation Workshop 2021 (SW21)*, SW21, 405-414. DOI: 10.36819/SW21.044.

Peters, M., Simo, L. P., Amatller, A. M., Llanan, L. C., & Kreitz, P. B. (2021). **Toward a user-centred design approach for AR technologies in online higher education**. *Proceedings of 2021 7th International Conference of the Immersive Learning Research Network, ILRN 2021*, 1-8. DOI: 10.23919/iLRN52045.2021.9459409 (In collaboration with the DARTS research group at the Universitat Oberta de Catalunya.)

Serrano-Hernández, A., Gougeon, T., Cadarso, L., Juan, A.A. & Faulín, F. (2021). **The Urban Freight Distribution in Medium Size Cities: Descriptive Data Taken From Pamplona (Spain) and Angers (France)**. *Transportation Research Procedia*, 58, 347-354. DOI: 10.1016/j.trpro.2021.11.047.

Tordecilla, R.D., Copado, P., Panadero, J., Do Carmo Martins, L. & Juan, A.A. (2021). **An Agile and Reactive Biased-Randomized Heuristic for an Agri-Food Rich Vehicle Routing Problem**. *Transportation Research Procedia*, 58, 385-392. DOI: 10.1016/j.trpro.2021.11.052.

Xhafa, F., Aly, A. & Juan, A.A. (2021). **Optimization of Task Allocations in Cloud to Fog Environment with Application to Intelligent Transportation Systems**. In Barolli, L., Woungang, I., Enokido, T. (ed.) *Lecture Notes in Networks and Systems, Vol. 225, Advanced Information Networking and Applications. AINA 2021* (pp. 1-12). Springer. DOI: 10.1007/978-3-030-75100-5_1. Quartile: SCOPUS SJR: Q4.

Book chapters

Murillo-Olmos, J. et al. (2021). **Thresholding Algorithm Applied to Chest X-Ray Images with Pneumonia**. In Oliva, D., Houssein, E.H., Hinojosa, S. (ed.) *Metaheuristics in Machine Learning: Theory and Applications* (pp. 359-407). Springer.

Appendix 1: Scientific publications

K-ryptography and Information Security for Open Networks (KISON)

Articles

Arnedo, J. & Garcia-Font, V. (2021). **A Study on the Design and Application of Fictional Storytelling in Online Learning of Computer Security**. *Applied Sciences*, 11 (13), 1-17. DOI: 10.3390/app11136185. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2.

Garcia-Font, V. (2021). **Conceptual Technological Framework for Smart Cities to Move towards Decentralized and User-Centric Architectures Using DLT**. *Smart Cities*, 4 (2), 728-745. DOI: 10.3390/smartcities4020037.

Megías, D., Mazurczyk, W. & Kuribayashi, M. (2021). **Data Hiding and Its Applications: Digital Watermarking and Steganography**. *Applied Sciences*, 11 (22), 1-6. DOI: 10.3390/app112210928. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2.

Nanni, M., Andrienko, G., Barabási, A.-L., Boldrini, C., Bonchi, F., Cattuto, C., Chiaromonte, F., Comandé, G., Conti, M., Coté, M., Dignum, F., Dignum, V., Domingo Ferrer, J., Ferragina, P., Giannotti, F., Guidotti, R., Helbing, D., Kaski, K., Kertesz, J., Lehmann, S., Lepri, B., Lukowicz, P., Matwin, S., Megías, D., Monreale, A., Morik, K., Oliver, N., Passarella, A., Passerini, A., Pedreschi, D., Pentland, A., Pianesi, F., Pratesi, F., Rinzivillo, S., Ruggieri, S., Siebes, A., Torra, V., Trasarati, R., van den Hoven, J. & Vespignani, A. (2021). **Give more data, awareness and control to individual citizens, and they will help COVID-19 containment**. *Ethics and Information Technology*, 23, 1-6. DOI: 10.1007/s10676-020-09572-w. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Qureshi, A., Garcia-Font, V., Rifà Pous, H. & Megías, D. (2021). **Collaborative and efficient privacy-preserving critical incident management system**. *Expert Systems with Applications*, 163, 1-26. DOI: 10.1016/j.eswa.2020.113727. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Qureshi, A. & Megías, D. (2021). **Blockchain-Based Multimedia Content Protection: Review and Open Challenges**. *Applied Sciences*, 11 (1), 1-24. DOI: 10.3390/app11010001. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2.

Articles in conference proceedings

Hospital, J., Megías, D., & Mazurczyk, W. (2021). **Retransmission steganography in real-world scenarios: a practical study**. In Gilje, M., Koen, G. M. & Kulyk, O. (ed.) *EICC: European Interdisciplinary Cybersecurity Conference* (pp. 60–65). DOI: 10.1145/3487405.3487659.

Núñez del Prado, M., Salas-Piñón, J., Alatriza-Salas, H., Maehara-Aliaga, Y. & Megías, D. (2021). **Are Sequential Patterns Shareable? Ensuring Individuals' Privacy**. In Torra, V. & Narukawa, Y. (ed.) *Lecture Notes in Computer Science, Vol. 12898, Modeling Decisions for Artificial Intelligence. MDAI 2021* (pp. 28-39). Springer. DOI: 10.1007/978-3-030-85529-1_3. Quartile: SCOPUS SJR: Q3.

Appendix 1: Scientific publications

K-ryptography and Information Security for Open Networks (KISON)

Qureshi, A., Afaqui, M. S. & Salas, J. (2021). **IoTFC: A Secure and Privacy Preserving Architecture for Smart Buildings**. In Wang, D., Meng, W., Han, J. (Eds.) *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, Vol 344, Security and Privacy in New Computing Environments. SPN-CE 2020* (pp. 102-119). Springer. DOI: 10.1007/978-3-030-66922-5_7 (In collaboration with the Wireless Networks Research Lab [WiNE] at the IN3.)

Vilariño, F. & Serra-Ruiz, J. (2021). **Hackathon as a teaching methodology for challenge-based learning**. In *EDULEARN21 Proceedings: 13th International Conference on Education and New Learning Technologies* (pp. 8123–8130). IATED. DOI: 10.21125/edulearn.2021.1645.

Book chapters

Sabillon, R., Serra-Ruiz, J., Cavaller, V., Jeimy J. & Cano M. (2021). **An Effective Cybersecurity Training Model to Support an Organizational Awareness Program: The Cybersecurity Awareness TRAINing Model (CATRAM). A Case Study in Canada**. In Management Association, I. (ed.) *Research Anthology on Artificial Intelligence Applications in Security* (pp. 174–188). IGI Global (In collaboration with the Faculty of Information and Communication Sciences at the Universitat Oberta de Catalunya.)

Gender and ICT (GenTIC)

Articles

Buehrer, S., Schmidt, E.K., Rigler, D. & Palmén, R. (2021). **How to implement context-sensitive evaluation approaches in countries with still emerging evaluation cultures**. *Public Policy and Administration (Viesoji politika ir administravimas)*, 20 (3), 368-381. DOI: 10.5755/J01.PPAA.20.3.28371. Quartile: SCOPUS SJR: Q3.

Castelló, E., & Romano, M. J. (2021) **Shepherdesses: new representations of rural women in Spain**. *Feminist Media Studies*. DOI: 10.1080/14680777.2021.1992646.

De la Torre-Moral, A., Fàbregues, S., Bach-Faig, A., Fornieles-Deu, A., Medina, F. X., Aguilar, A., & Sánchez-Carracedo, D. (2021). **Family meals, conviviality, and the Mediterranean Diet among families with adolescents**. *International Journal of Environmental Research and Public Health*, 18 (5), 499. DOI: 10.3390/ijerph18052499.

Appendix 1: Scientific publications

Gender and ICT (GenTIC)

Escalante-Barrios, E.L., Suárez-Enciso, S.M., Putnam, S.P., Raikes, H. & Fàbregues, S. (2021). [Using the Very Short Form of the Children's Behavior Questionnaire for Spanish-Speaking Populations in Low- and Middle-Income Countries: A Psychometric Analysis of Dichotomized Variables](#). *Children*, 8 (2), 1-14. DOI: 10.3390/children8020074. Quartile: ISI JCR: Q2.

Fàbregues, S., Escalante-Barrios, E.L., Molina Azorín, J.F., Hong, Q.N. & Verd, J.M. (2021). [Taking a critical stance towards mixed methods research: A cross-disciplinary qualitative secondary analysis of researchers' views](#). *PLoS ONE*, 16 (7), 1-21. DOI: 10.1371/journal.pone.0252014. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Fàbregues, S., Molina Azorín, J.F. & Fetters, M. D. (2021). [Virtual Special Issue on 'Quality in Mixed Methods Research'](#). *Journal of Mixed Methods Research*, 15 (2), 146-151. DOI: 10.1177/15586898211001974. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Ferran-Ferrer, N., Castellanos, P., Minguillón, J. & Meneses, J. (2021). [The gender gap on the Spanish Wikipedia: Listening to the voices of women editors](#). *El Profesional de la Información*, 30 (5), 1-14. DOI: 10.3145/epi.2021.sep.16. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q1. (In collaboration with the Learning Analytics for Innovation and Knowledge Application in Higher Education [LAI-KA] research group at the Universitat Oberta de Catalunya.)

Fierro, J., Parella, S., Güell, B., Petroff, A. (2021) [Educational Achievement Among Children of Latin American Immigrants in Spain](#). *Journal of International Migration & Integration*. DOI: 10.1007/s12134-021-00918-x.

Guetterman, T., Fàbregues, S. & Sakakibara, R. (2021). [Visuals in joint displays to represent integration in mixed methods research: A methodological review](#). *Methods in Psychology*, 5, 1-8. DOI: 10.1016/j.metip.2021.100080.

Humbert, A.L., Guenther, E.A. & Müller, J. (2021). [Not Simply 'Counting Heads': A Gender Diversity Index for the Team Level](#). *Social Indicators Research*, 157 (2), 689-707. DOI: 10.1007/s11205-021-02635-5. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Minguillón, J., Meneses, J., Aibar, E., Ferran-Ferrer, N., & Fàbregues, S. (2021). [Exploring the gender gap in the Spanish Wikipedia: Differences in engagement and editing practices](#). *PLoS ONE*, 16 (2), e0246702. DOI: 10.1371/journal.pone.0246702.

Müller, J., Meneses, J., Humbert, A.L. & Guenther, E.A. (2021). [Sensor-based proximity metrics for team research. A validation study across three organizational contexts](#). *Behavior Research Methods*, 53 (2), 718-743. DOI: 10.3758/s13428-020-01444-x. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Appendix 1: Scientific publications

Gender and ICT (GenTIC)

O'Connor, P., Hodgins, M., Woods, D.R., Wallwaey, E., Palmén, R., Van Den Brink, M. & Kalpazidou Schmidt, E. (2021). **Organisational characteristics that facilitate gender-based violence and harassment in higher education?** *Administrative Sciences*, 11 (4), 1-13. DOI: 10.3390/admsci11040138.

Parella, S., Silvestre, J., & Petroff, A. (2021). **A mixed-method analysis of remittance scripts among Bolivian immigrants in Spain.** *Journal of International Development*, 33 (1), 256-274. DOI: 10.1002/jid.3521.

Petroff, A., Viladrich, A. & Parella, S. (2021). **Framing inclusion: The media treatment of irregular immigrants' right to health care in Spain.** *International Journal of Intercultural Relations*, 82, 135-144. DOI: 10.1016/j.ijintrel.2021.03.004. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Petroff, A., Sáinz Ibáñez, M. & Arroyo, L. (2021). **A Multilevel Qualitative Perspective to Gendered Life Course, Socialization, and STEM Trajectories Among Emerging Adults in Spain.** *Emerging Adulthood*, 1-14. DOI: 10.1177/21676968211021678. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Reyes, J.I., Meneses, J. & Melián, E. (2021). **A systematic review of academic interventions for students with disabilities in Online Higher Education.** *European Journal of Special Needs Education*. DOI: 10.1080/08856257.2021.1911525. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Sáenz-Castro, P., Vlachopoulos, D. & Fàbregues, S. (2021). **Exploring the Relationship between Saber Pro Test Outcomes and Student Teacher Characteristics in Colombia: Recommendations for Improving Bachelor's Degree Education.** *Education Sciences*, 11 (9), 1-24. DOI: 10.3390/educsci11090507. Quartile: SCOPUS SJR: Q2.

Sáinz Ibáñez, M., Solé Blanch, J., Fàbregues, S. & Garcia Cuesta, S. (2021). **Secondary School Teachers' Views of Gender Differences in School Achievement and Study Choices in Spain.** *Sage Open*, 11 (3), 1-14. DOI: 10.1177/21582440211047573. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2. (*In collaboration with the Laboratory of Social Education at the Universitat Oberta de Catalunya.*)

Sáinz Ibáñez M., Solé, J., Fàbregues, S., & Garcia-Cuesta, S. (2021). **Secondary school teachers' attitudes towards boys' and girls' achievement and study choices.** *Sage Open*. DOI: 10.1177/21582440211047573.

Sáinz Ibáñez, M., Upadyaya, K. & Salmela-Aro, K. (2021). **The Co-Development of Science, Math, and Language Interest Among Spanish and Finnish Secondary School Students.** *Frontiers in Education*, 6, 1-9. DOI: 10.3389/educ.2021.684543. Quartile: SCOPUS SJR: Q2.

Appendix 1: Scientific publications

Gender and ICT (GenTIC)

Thomson, A., Palmén, R., Reidl, S., Barnard, S., Beranek, S., Dainty, A.R.J. & Hassan, T.M. (2021). **Fostering collaborative approaches to gender equality interventions in higher education and research: the case of transnational and multi-institutional communities of practice.** *Journal of Gender Studies*, 31, 1-19. DOI: 10.1080/09589236.2021.1935804. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Xavier, M. & Meneses, J. (2021). **The Tensions Between Student Dropout and Flexibility in Learning Design: The Voices of Professors in Open Online Higher Education.** *International Review of Research in Open and Distance Learning*, 22 (4), 72-88. DOI: 10.19173/irrodl.v23i1.5652. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Younas, A., Fàbregues, S., Durante, A. & Ali, P. (2021). **Providing english and native language quotes in qualitative research: A call to action.** *Nursing Open*, 1-7. DOI: 10.1002/nop2.1115. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2.

Articles in conference proceedings

Minguillón, J., Meneses, J., Calvo, A., Serres, J. & Aracil, X. (2021). **Still Open During the Covid-19 Lockdown: An Analysis of Online Students' Engagement with the Virtual Campus.** In *Lessons from a Pandemic for the Future of the Education, EDEN Conference Proceedings* (pp. 420-429). DOI: 10.38069/edenconf-2021-ac0041 (In collaboration with the Learning Analytics for Innovation and Knowledge Application in Higher Education [LAIKA] research group at the Universitat Oberta de Catalunya.)

Petroff, A. (2021). **La participación de las mujeres en las plataformas de crowdsourcing: retos y oportunidades en los sectores tecnológicos de la economía digital.** In *WSCITECH21. 2n Congrés Dones, Ciència i Tecnologia* (pp. 182-192).

Roqueta Fernàndez, M. (2021). **Limitacions de la política de l'OCDE per al foment de vocacions STEM entre les noies.** In *WSCITECH21. 2n Congrés Dones, Ciència i Tecnologia* (pp.23-35).

Books

Yanes Torrado, S. (2021) *La cuestión turística. Trece entrevistas para repensar el turismo.* Alba Sud Editorial.

Book chapters

Fierro, J., Parella, S., Guell, B. & Petroff, A. (2021). **El proceso de adaptación de los hijos e hijas de migrantes ecuatorianos en España: análisis de la trayectoria educativa en contextos de post-crisis.** In Aparicio, R. & Portes, A. (ed.). *Los nuevos españoles: la incorporación de los hijos de inmigrantes.* Bellaterra.

Rodó-Zárate, M., Malpica Lander, C., & Garrido Skurkowicz, N.. (2021). **Explotació de l'enquesta de violència masclista a Catalunya de 2016 des d'una perspectiva de la joventut.** In Barjola, N., de la Fuente Vázquez, M. & Rodó-Zárate, M. (Coord.). *Violències masclistes en l'etapa juvenil a Catalunya* (pp. 77-221). Col·lecció Estudis, Generalitat de Catalunya. Departament de Drets Socials. Direcció General de Joventut.

Appendix 1: Scientific publications

Gender and ICT (GenTIC)

Press publications

Arroyo, L. (January 27, 2021). *Cura, digitalització i el futur del treball*. Diari ARA. URL: https://www.ara.cat/opinio/cura-digitalitzacio-futur-treball-li-dia-arroyo-prieto_129_3837037.html.

Roqueta-Fernàndez, M. (May 28, 2021). *Pornografía e Internet: hacia una moralidad democrática*. Ctxt Contexto y Acción. URL: <https://ctxt.es/es/20210501/Firmas/35986/pornografia-internet-moralidad-feminismo-placer-Marta-Roqueta.htm>.

Blog posts

Roqueta-Fernàndez, M. (July 20, 2021). *Smashing Catalan media patriarchy using digital tools*. IN3 Blog. URL: <https://in3.blogs.uoc.edu/smashing-catalan-media-patriarchy-using-digital-tools/>

Sáinz, M. [Milagros]. (March 8, 2021). *Orientació no sexista per fomentar vocacions científico-tècniques entre les nenes*. Blog de El Diari de l'Educació. URL: <https://diarieducacio.cat/educaciolocal/2021/03/08/orientacio-no-sexista-per-fomentar-vocacions-ciencifi-co-tecniques-entre-les-nenes>.

Global Literary Studies Research Lab (GloALS)

Articles

Puxan-Oliva, M. (2021). *Enfermedad y reescritura: El oficio de escribir en Los diarios de Emilio Renzi de Ricardo Piglia*. *Revista Letral*, 26, 107-126. DOI:10.30827/RLV0I26.16262. Quartile: SCOPUS SJR: Q2.

Books

Casanova, P. (2021). *La lengua mundial. Traducción y dominación* (Fólica, L. Trans.). Ethos Traductora.

Mota, A. Wagner, P. (2021). *Collective Action and Political Transformations: the entangled experiences in Brazil, South Africa and Europe (2nd ed.)* University Press.

Book chapters

Carbó, E. Roig-Sanz, D. (2021). *Las instituciones culturales y la cooperación. La creación de redes transnacionales en la primera modernidad española*. In Gracia, J. & Ródenas, D. (ed.) *Las dos modernidades. Edad de Plata y Transición Cultural en España*, (pp. 193-229). Visor Libros.

Mota, A. (2021). *Rechte der Natur Oder: Die andauernde Suche nach der Verortung des Lebens in der Welt*. In Adloff, F. & Busse, T. (ed), *Welche Rechte Braucht die Natur? Wege aus dem Artensterben* (pp. 53-67). Campus Verlag.

Mota, A. (2021). *A journey through Latin American social and political thought*. In Delanty, G. & Turner, S.P. (ed.). *The Routledge International Handbook of Contemporary Social and Political Theory* (pp. 186-195). Routledge.

Roig-Sanz, D. (2021). *The International Institute of Intellectual Cooperation: Translation policies in the interwar period (1925–1946)*. In Rundle, C. *The Routledge Handbook of Translation History* (pp. 452–468). Routledge.

Roig-Sanz, D., Fólica, L. & Ikoff, V. (2022). *Translation in literary magazines*. In Bielsa, E. (ed.), *The Routledge Handbook of Translation and Media* (pp. 199-216). Routledge.

Appendix 1: Scientific publications

Systems, Software and Models (SOM Research Lab)

Articles

Alfonso, I., Garcés, K., Castro, H. & Cabot, J. (2021). **Self-adaptive architectures in IoT systems: a systematic literature review**. *Journal of Internet Services and Applications*, 12 (1), 1-28. DOI: 10.1186/s13174-021-00145-8. Quartile: SCOPUS SJR: Q2.

Bañeres, D., Guerrero-Roldán, A.E., Rodríguez González, M.E. & Karadeniz, A. (2021). **A Predictive Analytics Infrastructure to Support a Trustworthy Early Warning System**. *Applied Sciences*, 11 (13), 1-28. DOI: 10.3390/app11135781. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q2 (In collaboration with the Technology-Enhanced Knowledge and Interaction [Teking] research group at the Universitat Oberta de Catalunya.)

Bozkurt, A., Karadeniz, A., Bañeres, D., Guerrero-Roldán, A.E. & Rodríguez González, M.E. (2021). **Artificial Intelligence and Reflections from Educational Landscape: A Review of AI Studies in Half a Century**. *Sustainability*, 13 (2), 1-16. DOI: 10.3390/su13020800. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1 (In collaboration with the Technology-Enhanced Knowledge and Interaction [Teking] research group at the Universitat Oberta de Catalunya.)

Burgueño, L., Cabot, J., Li, S. & Gérard, S. (2021). **A generic LSTM neural network architecture to infer heterogeneous model transformations**. *Software and Systems Modeling*, 21, 1-18. DOI: 10.1007/s10270-021-00893-y. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Burgueño, L. & Gogolla, M. (2021). **Pre-face to the JOT issue on 17th European Conference on Modelling Foundations and Applications (ECMFA 2021)**. *Journal of Object Technology*, 20 (3), 1-5. DOI: 10.5381/JOT.2021.20.3.E1. Quartile: SCOPUS SJR: Q4.

Gómez, A., Iglesias-Urkia, M., Belategi, L., Mendiàldua, X. & Cabot, J. (2021). **Model-driven development of asynchronous message-driven architectures with AsyncAPI**. *Software and Systems Modeling*, 1-29. DOI: 10.1007/s10270-021-00945-3. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Guerrero-Roldán, A.E., Rodríguez González, M.E., Bañeres, D., Elasmri-Ejjaberi, A. & Cortadas, P. (2021). **Experiences in the use of an adaptive intelligent system to enhance online learners' performance: a case study in Economics and Business courses**. *International Journal of Educational Technology in Higher Education*, 18 (1), 1-27. DOI: 10.1186/s41239-021-00271-0. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1 (In collaboration with the Technology-Enhanced Knowledge and Interaction [Teking] and Innovative Tools for eLearning (GO2SIM) research groups at the Universitat Oberta de Catalunya.)

Appendix 1: Scientific publications

Systems, Software and Models (SOM Research Lab)

Laamanen, M., Ladonlahti, T., Uotinen, S., Okada, A., Bañeres, D. & Koçdar, S. (2021). **Acceptability of the e-authentication in higher education studies: views of students with special educational needs and disabilities.** *International Journal of Educational Technology in Higher Education*, 18 (1), 1-17. DOI: 10.1186/s41239-020-00236-9. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Planas, E., Daniel, G., Brambilla, M. & Cabot, J. (2021). **Towards a model-driven approach for multiexperience AI-based user interfaces.** *Software and Systems Modeling*, 20 (4), 997-1009. DOI: 10.1007/s10270-021-00904-y. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q2.

Rodríguez González, M.E., Guerrero-Roldán, A.E., Bañeres, D. & Noguera, I. (2021). **Students' Perceptions of and Behaviors Toward Cheating in Online Education.** *IEEE Revista Iberoamericana de Tecnologías del Aprendizaje*, 16 (2), 134-142. DOI: 10.1109/RITA.2021.3089925. Quartile: SCOPUS SJR: Q3 (In collaboration with the Technology-Enhanced Knowledge and Interaction [Teking] research group at the Universitat Oberta de Catalunya.)

Articles in conference proceedings

Bañeres, D., Karadeniz, A., Guerrero-Roldán, A.E. & Elena Rodríguez, M. (2021). **A Predictive System for Supporting At-Risk Students' Identification.** In Arai, K., Kapoor, S., Bhatia, R. (ed.) *Proceedings of the Future Technologies Conference (FTC) 2020, Vol. 1288. Advances in Intelligent Systems and Computing* (pp. 891-904). Springer. DOI: 10.1007/978-3-030-63128-4_67 (In collaboration with the Technology-Enhanced Knowledge and Interaction [Teking] research group at the Universitat Oberta de Catalunya.)

Bañeres, D., Rodríguez González, M.E., Guerrero-Roldán, A.E. & Karadeniz, A. (2021). **Providing Early Feedback based on Predictive Models: A Case Study.** *Revista del Congrés Internacional de Docència Universitària i Innovació (CI-DUI)*, 5, 1-8. (In collaboration with the Technology-Enhanced Knowledge and Interaction [Teking] research group at the Universitat Oberta de Catalunya.)

Burgueño, L., Clarisó, R., Gérard, S., Li, S. & Cabot, J. (2021). **An NLP-Based Architecture for the Autocompletion of Partial Domain Models.** In La Rosa, M., Sadiq, S., Teniente, E. (ed.) *Lecture Notes in Computer Science, Vol. 12751, Advanced Information Systems Engineering. CAiSE 2021* (pp. 91-106). Springer. DOI:10.1007/978-3-030-79382-1_6. Quartile: SCOPUS SJR: Q3

Cabot, J., Calejari, D., Clarisó, R., Gogolla, M., Vallecillo, A. & Willink, E. (2021). **A SWOT analysis of the object constraint language.** *CEUR Workshop Proceedings*, 2999, 178-184.

Gogolla, M., Burgueño, L. & Vallecillo, A. (2021). **Refactoring collections in OCL.** *CEUR Workshop Proceedings*, 2999, 142-148.

Sree-Kumar, A., Planas, E. & Clarisó, R. (2021). **Validating Feature Models with Respect to Textual Product Line Specifications.** In Grünbacher, P., Seidl, C., Dhungana, D. & Lovasz-Bukvova, H. (ed.) *VaMoS'21: 15th International Working Conference on Variability Modelling of Software-Intensive Systems* (pp. 1-10). DOI: 10.1145/3442391.3442407.

Appendix 1: Scientific publications

Systems, Software and Models (SOM Research Lab)

Cabot, J., Bruneliere, H., Daniel, G. & Gomez, A. (2021). [All Researchers Should Become Entrepreneurs](#). In *2021 IEEE/ACM 8th International Workshop on Software Engineering Research and Industrial Practice (SER&IP)* (pp. 73–74). DOI: 10.1109/SER-IP52554.2021.00019.

Cabot, J., Burgueno, L., Clariso, R., Daniel, G., Perianez-Pascual, J. & Rodriguez-Echeverria, R. (2021). [Testing challenges for NLP-intensive bots](#). In *2021 IEEE/ACM Third International Workshop on Bots in Software Engineering (BotSE)* (pp. 31–34). DOI: 10.1109/BotSE52550.2021.00014.

Daniel, G. & Cabot, J. (2021). [The Software Challenges of Building Smart Chatbots](#). In *2021 IEEE/ACM 43rd International Conference on Software Engineering: Companion Proceedings (ICSE-Companion)* (pp. 324–325). DOI: 10.1109/ICSE-Companion52605.2021.00138.

Eramo, R., Muttillio, V., Berardinelli, L., Bruneliere, H., Gomez, A., Bagnato, A., Sadovykh, A. & Cicchetti, A. (2021). [AI-DOaRt: AI-augmented Automation for DevOps, a Model-based Framework for Continuous Development in Cyber-Physical Systems](#). In *2021 24th Euromicro Conference on Digital System Design (DSD)* (pp. 303–310). DOI: 10.1109/DSD53832.2021.00053.

Gogolla, M., Clarisó, R., Selic, B. & Cabot, J. (2021). [Towards Facilitating the Exploration of Informal Concepts in Formal Modeling Tools](#). In *2021 ACM/IEEE International Conference on Model Driven Engineering Languages and Systems Companion (MODELS-C)* (pp. 244–248). DOI: 10.1109/MODELS-C53483.2021.00044.

Ed-douibi, H., Cánovas Izquierdo, J.L., Daniel, G. & Cabot, J. (2021). [A Model-Based Chatbot Generation Approach to Converse with Open Data Sources](#). In Brambilla, M., Chbeir, R., Frasinca, F., Manolescu, I. (ed.) *Lecture Notes in Computer Science, Vol. 12706, Web Engineering. ICWE 2021*. Springer. DOI: 10.1007/978-3-030-74296-6_33.

Urban Transformation and Global Change Laboratory (TURBA Lab)

Articles

Alorda-Kleinglass, A., Ruiz-Mallen, I., Diego-Feliu, M., Rodellas, V., Bruach-Menchén, J.M., & Garcia-Orellana, J. (2021). [The social implications of Submarine Groundwater Discharge from an Ecosystem Services perspective: A systematic review](#). *Earth Science Reviews*, 221, 1-15. DOI: 10.1016/j.earscirev.2021.103742. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Anguelovski, I., Cole, H., O’Neill, E., Baró, F., Kotsila, P., Sekulova, F., Pérez del Pulgar, C., Shokry, G., García-Lamarca, M., Argüelles, L., Connolly, J., Honey-Roses, J., López-Gay, A., Fontán-Vela, M., Matheney, A., Oscilowicz, E., Binet, A. & Triguero-Mas, M. (2021). [Gentrification pathways and their health impacts on historically marginalized residents in Europe and North America: Global qualitative evidence from 14 cities](#). *Health & Place*, 72, 1-15. DOI: 10.1016/j.healthplace.2021.102698. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Appendix 1: Scientific publications

Urban Transformation and Global Change Laboratory (TURBA Lab)

Argüelles, L. (2021). **Growing Farming Heroes? Politics of Imaginaries within Farmer Training Programs in California.** *Annals of the American Association of Geographers*, 111 (15), 1385-1402. DOI: 10.1080/24694452.2020.1823202. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Argüelles, L. (2021). **Privileged So-cionatures and Naturalization of Privilege: Untangling Environmental Privilege Dimensions.** *Professional Geographer*, 73 (4), 650-661. DOI: 10.1080/00330124.2021.1924804. Quartile: ISI JCR: Q3 | SCOPUS SJR: Q1.

Argüelles, L. & March, H. (2021). **Weeds in action: Vegetal political ecology of unwanted plants.** *Progress in Human Geography*, 1-23. DOI: 10.1177/03091325211054966. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Cámara Menoyo, C., Ribera Fumaz, R. & Vivas-Elias, P. (2021). **Problematizando los comunes urbanos: hacia una aproximación provincializada.** *Urbe. Revista Brasileira de Gestão Urbana (Brazilian Journal of Urban Management)*, 13, 1-14. DOI: 10.1590/2175-3369.013.E20190185. Quartile: SCOPUS SJR: Q2 (In collaboration with the Psychology, Health and the Net [PSiNET] research group at the Universitat Oberta de Catalunya.)

Camou-Guerrero, A., Rodríguez Sánchez, A., Ruiz-Mallen, I., Estrada-Torres, A. & Martínez Gómez, M. (2021). **Assessing the impact of a science communication program in La Malinche National Park, Tlaxcala, Mexico.** *Applied Environmental Education & Communication*, 20 (2), 184-201. DOI: 10.1080/1533015X.2020.1754966. Quartile: SCOPUS SJR: Q2.

Charnock, G., March, H. & Ribera Fumaz, R. (2021). **From smart to rebel city? Worlding, provincialising and the Barcelona Model.** *Urban Studies*, 58 (3), 581-600. DOI: 10.1177/0042098019872119. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

D'Armengol, L., Ruiz-Mallen, I., Barnaud, C. & Corbera, E. (2021). **What does co-management offer? Exploring users' knowledge through mental models in the fishery of La Encrucijada Biosphere Reserve, Mexico.** *Ecology and Society*, 26 (1), 1-38. DOI: 10.5751/ES-12177-260125. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Egea, F.J., López-Rodríguez, M.D., Oña-Burgos, P., Castro, A.J. & Glass, C.R. (2021). **Bioeconomy as a transforming driver of intensive greenhouse horticulture in SE Spain.** *New Biotechnology*, 61, 50-56. DOI: 10.1016/j.nbt.2020.11.010. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Heras, M., Galafassi, D., Oteros Rozas, E., Ravera, F., Berraquero-Díaz, L. & Ruiz-Mallen, I. (2021). **Realising potentials for arts-based sustainability science.** *Sustainability Science*, 16, 1-15. DOI: 10.1007/s11625-021-01002-0. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Lemus, D. & Kovacic, Z. (2021). **Precise Yet Uncertain: Broadening Understandings of Uncertainty and Policy in the BPA Controversy.** *Risk Analysis*, 1-19. DOI: 10.1111/risa.13860. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Lira, M. & March, H. (2021). **Learning through housing activism in Barcelona: knowledge production and sharing in neighbourhood-based housing groups.** *Housing Studies*, 1-20. DOI: 10.1080/02673037.2021.1921121. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Appendix 1: Scientific publications

Urban Transformation and Global Change Laboratory (TURBA Lab)

Matos, A., Barraza, L. & Ruiz-Mallen, I. (2021). **Linking Conservation, Community Knowledge, and Adaptation to Extreme Climatic Events: A Case Study in Gorongosa National Park, Mozambique**. *Sustainability*, 13 (11), 1-15. DOI: 10.3390/su13116478. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Quintas-Soriano, C., Gibson, D.M., Brandt, J.S., López-Rodríguez, M.D., Cabello, J., Aguilera, P.A. & Castro, A.J. (2021). **An interdisciplinary assessment of private conservation areas in the Western United States**. *Ambio: A Journal of the Human Environment*, 50 (1), 150-162. DOI: 10.1007/s13280-020-01323-x. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Reyes-García, V., Fernández-Llamazares, Á., Aumeeruddy-Thomas, Y., Benyei, P., Bussmann, R.W., Diamond, S.K., García-del-Amo, D., Guadilla-Sáez, S., Hanazaki, N., Kosoy, N., Lavidés, M., Luz, A.C., McElwee, P., Meretsky, V.J., Newberry, T., Molnár, Z., Ruiz-Mallen, I., Salpeteur, M., Wyndham, F.S., Zorondo-Rodríguez, F. & Brondizio, E.S. (2021). **Recognizing Indigenous peoples' and local communities' rights and agency in the post-2020 Biodiversity Agenda**. *Ambio: A journal of the human environment*, 51, 1-9. DOI: 10.1007/s13280-021-01561-7. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Ruiz-Mallen, I., Heras, M. & Berrens, K. (2021). **Responsible research and innovation in science education: insights from evaluating the impact of using digital media and arts-based methods on RRI values**. *Research in Science & Technological Education*, 39 (3), 263-284. DOI: 10.1080/02635143.2020.1763289. Quartile: ISI JCR: Q4 | SCOPUS SJR: Q1.

Satorras, M., Otero, I., Gómez Baggethun, E. & Reyes-García, V. (2021). **Prudent peasantries: Multilevel adaptation to drought in early modern Spain (1600-1715)**. *Environment and History*, 27 (1), 3-36. DOI: 10.3197/096734019X15463432086964. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q2.

Serrano-Balaguer, I. (2021). **Presentación del monográfico sobre la COVID-19**. *IDP. Revista de Internet, Derecho y Política*, 32, 1-3. DOI: 10.7238/idp.v0i32.381596. Quartile: SCOPUS SJR: Q3.

Triguero-Mas, M., Anguelovski, I., Garcia-Lamarca, M., Argüelles, L., Pérez del Pulgar, C., Shokry, G., Connolly, J. & Cole, H. (2021). **Natural outdoor environments' health effects in gentrifying neighborhoods: Disruptive green landscapes for underprivileged neighborhood residents**. *Social Science & Medicine*, 279, 1-11. DOI: 10.1016/j.socscimed.2021.113964. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Appendix 1: Scientific publications

Urban Transformation and Global Change Laboratory (TURBA Lab)

Zapana-Churata, L., March, H. & Saurí, D. (2021). [Water demand management strategies in fast-growing cities. The case of Arequipa, Perú.](#) *International Journal of Water Resources Development*, 1-25. DOI: 10.1080/07900627.2021.1903401. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Zapana-Churata, L., March, H. & Saurí, D. (2021). [Las desigualdades en el acceso al agua en ciudades latinoamericanas de rápido crecimiento: el caso de Arequipa, Perú.](#) *Revista de Geografía Norte Grande*, 80, 369-389. Quartile: ISI JCR: Q4 | SCOPUS SJR: Q3.

Books

Cardullo, P. (2021). *Citizens in the 'Smart City': Participation, Co-production, Governance*. Routledge.

Wireless Networks Research Lab (WiNE)

Articles

Boquet, G., Tuset-Peiró, P., Adelantado, F., Watteyne, T. & Vilajosana, X. (2021). [LR-FHSS: Overview and Performance Analysis.](#) *IEEE Communications Magazine*, 59 (3), 30-36. DOI: 10.1109/MCOM.001.2000627. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Cano Bastidas, C., Sim, G.H., Asadi, A. & Vilajosana, X. (2021). [A Channel Measurement Campaign for mmWave Communication in Industrial Settings.](#) *IEEE Transactions on Wireless Communications*, 20 (1), 299-315. DOI: 10.1109/TWC.2020.3024709.

Chang, T., Watteyne, T., Maksimovic, F., Wheeler, B., Burnett, D., Yuan, T., Vilajosana, X. & Pister, K. (2021). [QuickCal: Assisted Calibration for Crystal-Free Micromotes.](#) *IEEE Internet of Things Journal*, 8 (3), 1846-1858. DOI: 10.1109/JIOT.2020.3015725. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Famitafreshi, G., Afaqui, M.S. & Melià Seguí, J. (2021). [A Comprehensive Review on Energy Harvesting Integration in IoT Systems from MAC Layer Perspective: Challenges and Opportunities.](#) *Sensors*, 21 (9), 1-53. DOI: 10.3390/s21093097. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q2.

Famitafreshi, G. & Cano Bastidas, C. (2021). [Achieving proportional fairness in WiFi networks via bandit convex optimization.](#) *Annales des Télécommunications = Annals of Telecommunications*, 1-15. DOI: 10.1007/s12243-021-00887-3. Quartile: ISI JCR: Q4 | SCOPUS SJR: Q2.

Guerrero, M., Cano Bastidas, C., Vilajosana, X. & Thubert, P. (2021). [Towards Dependable IoT via Interface Selection: Predicting Packet Delivery at the End Node in LoRaWAN Networks.](#) *Sensors*, 21 (8), 1-20. DOI: 10.3390/s21082707. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q2.

Appendix 1: Scientific publications

Wireless Networks Research Lab (WiNE)

Kousaridas, A., Fallgren, M., Fischer, E., Moscatelli, F., Vilalta, R., Mühleisen, M., Barmponakis, S., Vilajosana, X., Euler, S., Tossou, B. & Alonso Zarate, J. (2021). **5G Vehicle-to-Everything Services in Cross-Border Environments: Standardization and Challenges**. *IEEE Communications Standards Magazine*, 5 (1), 22-30. DOI: 10.1109/MCOMSTD.001.2000058. Quartile: SCOPUS SJR: Q2.

Lejarreta-Andrés, J., Melià Seguí, J. & Vilajosana, X. (2021). **WiLD: Wireless Passive Moisture Sensing under Moving Conditions for Smart Manufacturing**. *IEEE Sensors Journal*, 21 (17), 19541-19549. DOI: 10.1109/JSEN.2021.3092262. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Martínez-Huerta, B. & Vilajosana, X. (2021). **Exploiting the Solar Energy Surplus for Edge Computing**. *IEEE Transactions on Sustainable Computing*, 7 (1), 135-143. DOI: 10.1109/TSUSC.2021.3058588. Quartile: SCOPUS SJR: Q1.

Ojaghi, B., Adelantado, F., Antonopoulos, A. & Verikoukis, C. (2021). **SlicedRAN: Service-Aware Network Slicing Framework for 5G Radio Access Networks**. *IEEE Systems Journal*, 1-12. DOI: 10.1109/JSYST.2021.3064398. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q1.

Sedar, R., Vázquez Gallego, F., Casellas, R., Vilalta, R., Muñoz, R., Silva, R., Dizambourg, L., Fernández Barciela, A.E., Vilajosana, X., Datta, S.K., Härrri, J. & Alonso Zarate, J. (2021). **Standards-compliant multi-protocol on-board unit for the evaluation of connected and automated mobility services in multi-vendor environments**. *Sensors*, 21 (6), 1-20. DOI: 10.3390/s21062090. Quartile: ISI JCR: Q1 | SCOPUS SJR: Q2.

Solimini, D., Tuset-Peiró, P., Boquet, G., Gomes, R.D., Vázquez Gallego, F. & Vilajosana, X. (2021). **Towards Reliable IEEE 802.15.4g SUN with Re-transmission Shaping and Adaptive Modulation Selection**. *Journal of Signal Processing Systems*, 93 (9), 1027-1044. DOI: 10.1007/s11265-021-01665-z. Quartile: ISI JCR: Q4 | SCOPUS SJR: Q3.

Tanaka, Y., Minet, P., Vucinic, M., Vilajosana, X. & Watteyne, T. (2021). **YSF: A 6TiSCH Scheduling Function Minimizing Latency of Data Gathering in IIoT**. *IEEE Internet of Things Journal*. DOI: 10.1109/JIOT.2021.3118017. Quartile: SCOPUS SJR: Q1.

Wilhelmi, F., Barrachina-Muñoz, S., Cano Bastidas, C., Selinis, I. & Bellalta, B. (2021). **Spatial Reuse in IEEE 802.11ax WLANs**. *Computer Communications*, 170, 65-83. DOI: 10.1016/j.comcom.2021.01.028. Quartile: ISI JCR: Q2 | SCOPUS SJR: Q1.

Articles in conference proceedings

Galve, S., Vilajosana, X. & Puig, V. (2021). **Fault Diagnosis using a Combined Model and Data Based Approach: Application to a Water Cooling Machine**. In *2021 5th International Conference on Control and Fault-Tolerant Systems (SysTol)* (pp. 151–156). DOI: 10.1109/SysTol52990.2021.9595323.

Appendix 1: Scientific publications

Wireless Networks Research Lab (WiNE)

Vila, M., Ribera-Sancho, M., Teniente López, E. & Vilajosana, X. (2021). **Semantics for Connectivity Management in IoT Sensing**. In Ghose, A., Horkoff, J., Silva Souza, V.E., Parsons, J., Evermann, J. (ed.) *Lecture Notes in Computer Science, Vol. 13011, Conceptual Modeling. ER 2021* (pp. 297-311). Springer. DOI: 10.1007/978-3-030-89022-3_24. Quartile: SCOPUS SJR: Q3.

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Appendix 2
Doctoral theses

Appendix 2: Doctoral theses

Internet Computing & Systems Optimization (ICSO)

Do Carmo Martins, Leandro (2021). *Applications of Biased-Randomized Algorithms and Simheuristics in Interdisciplinary and Integrated Logistics*.

Supervision: Dr. Àngel A. Juan Pérez (Universitat Oberta de Catalunya - ICSO) y Dra. Helena Ramalinho (Universidad Pompeu Fabra)

Doctoral programme in Network and Information Technologies, Universitat Oberta de Catalunya.

Raba Sánchez, David (2021). *Applications of Big Data and Optimization to Inventory and Distribution Management*.

Supervision: Dr. Àngel A. Juan Pérez y Dr. Daniel Riera Terrén (Universitat Oberta de Catalunya - ICSO)

Doctoral programme in Network and Information Technologies, Universitat Oberta de Catalunya.

García Hernández, Víctor Jesús (2021). *Percepción y uso de los vídeos educativos en asignaturas de física en ingeniería en entornos presenciales y virtuales*.

Supervision: Dr. Antoni Pérez Navarro (Universitat Oberta de Catalunya - ICSO) y Dr. Jordi Conesa Caralt (Universitat Oberta de Catalunya - Smart eLearning systems and services (SmartLearn))

Doctoral programme in Education and ICT (E-Learning), Universitat Oberta de Catalunya.

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Appendix 3 Projects

Appendix 3: Projects

International projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|--|--------------------------------|-----------|---|
| <u>Ageing + Communication + Technologies (ACT): Experiencing a Digital World in Later Life</u> | Communication Networks & Social Change (CNSC) <i>(in collaboration with research groups from other universities/centres)</i> | Mireia Fernández-Ardèvol | 2014-2021 | Social Sciences and Humanities Research Council of Canada (SSHRC) |
| Detection of fake news on Social Media platforms (DISSIMILAR) | K-riptography and Information Security for Open Networks (KISON) y Communication Networks & Social Change (CNSC) | David Megías Jiménez | 2021-2024 | Spanish Ministry of Science, Innovation and Universities |
| Exploiting dual-band LPWAN for opportunistic low-cost communications | Wireless Networks (WiNE) | Cristina Cano Bastidas | 2019-2021 | Cisco Systems Inc. |
| Rhenus Sponsorship agreement: Applications of Intelligent Algorithms & Analytics in Smart Transportation & Logistics | Internet Computing & Systems Optimization (ICSO) | Ángel A. Juan Pérez | 2019-2022 | Rhenus Logistics, S.A.U. |
| Smart Cities in Global Comparative Perspective: Worlding and Provincializing Relationships | Urban Transformation and Global Change Laboratory (TURBA Lab) | Ramon Ribera Fumaz | 2020-2022 | Social Sciences and Humanities Research Council of Canada (SSHRC) |

Appendix 3: Projects

International projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|---|---|---------------------------------------|---------------|---|
| PSE4RAW: Path Selection Engine for Reliable and Available Wireless | Wireless Networks (WiNE) | Xavier Vilajosana Guillén | 2021-2022 | Cisco Systems Inc. |
| Ageing in Data | Communication Networks & Social Change (CNSC) | Mireia Fernández-Ardèvol | 2021-2028 | Social Sciences and Humanities Research Council of Canada (SSHRC) |

Appendix 3: Projects

European projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|--|--------------------------------|-----------|---|
| Single point of attachment communications empowered by cloud computing and big data analytics running on-top of massively distributed and loosely-coupled heterogeneous mobile data networks | Wireless Networks (WiNE) | Ferran Adelantado Freixer | 2017-2021 | European Commission |
| <u>Communities of Practice for Accelerating Gender Equality and Institutional Change in Research and Innovation across Europe</u> | Gender and ICT (GenTIC) <i>(in collaboration with research groups from other universities/centres)</i> | Jörg Müller | 2018-2021 | European Union's Horizon 2020 research and innovation programme |
| STEM education and practices are not only about the content | Urban aTransformation and Global Change Laboratory (TURBA Lab) | Isabel Ruiz Mallén | 2018-2021 | European Commission |
| A Rounder Sense of Purpose II | Urban Transformation and Global Change Laboratory (TURBA Lab) | Isabel Ruiz Mallén | 2018-2021 | European Commission |

Appendix 3: Projects

European projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|---|--|--------------------------------|-----------|---|
| <u>Mediterranean Open Resources for Social Innovation of Socially Responsive Enterprises (+RESILIENT)</u> | Gender and ICT (GenTIC) <i>(in collaboration with research groups from other universities/centres)</i> | Jörg Müller | 2018-2022 | European Union's Interreg MED Programme, co-financed by the European Regional Development Fund |
| <u>MapModern: Social Networks of the Past. Mapping Hispanic and Lusophone Literary Modernity, 1898-1959</u> | Global Literary Studies Research Lab (GlobalS) | Diana Roig-Sanz | 2018-2023 | European Research Council (ERC) - European Union's Horizon 2020 research and innovation programme |
| <u>Platform Labour in Urban Spaces: Fairness, Welfare, Development</u> | Digital Commons (Dimmons) <i>(in collaboration with research groups from other universities/centres)</i> | Mayo Fuster Morell | 2019-2021 | European Union's Horizon 2020 research and innovation programme |
| <u>PyroLife – Training a new generation of interdisciplinary experts in holistic fire management</u> | Care and Preparedness in the Network Society (Care-Net) <i>(in collaboration with research groups from other universities/centres)</i> | Miriam Arenas Conejo | 2019-2023 | European Union's Horizon 2020 research and innovation programme |
| <u>Certification-Award Systems to Promote Gender Equality in Research</u> | Gender and ICT (GenTIC) <i>(in collaboration with research groups from other universities/centres)</i> | Jörg Müller | 2020-2021 | European Union's Horizon 2020 research and innovation programme |

Appendix 3: Projects

European projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|---|--------------------------------|-----------|---------------------|
| <u>Unleashing future-facing urban hubs through culture and creativity-led strategies of transformative time</u> | Urban Transformation and Global Change Laboratory (TURBA Lab) | Ramon Ribera Fumaz | 2020-2024 | European Commission |
| <u>AI-augmented automation for efficient DevOps, a model-based framework for continuous development At RunTime in cyber-physical systems (AIDOaRT)</u> | Systems, Software and Models Research Lab (SOM Research Lab) | Jordi Cabot Sagrera | 2021-2024 | European Commission |
| <u>Transform safety-critical cyber-physical systems into distributed solutions for end-users and partners (TRANSACT)</u> | Systems, Software and Models Research Lab (SOM Research Lab) | Abel Gómez Llana | 2021-2024 | European Commission |

Appendix 3: Projects

National projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|--|--------------------------------|-----------|--|
| <u>Open data for all: an API-based infrastructure for exploiting online data sources</u> | Systems, Software and Models (SOM Research Lab) | Jordi Cabot Sagrera | 2016-2021 | Spanish Ministry of Science, Innovation and Universities |
| <u>Effects and effectiveness of interventions aimed at increasing young women's interest in science and technology (GESTEMI)</u> | Gender and ICT (GenTIC) <i>(in collaboration with the University of La Laguna)</i> | Milagros Sáinz | 2018-2021 | Spanish Ministry of Economy, Industry and Competitiveness, Spanish State Research Agency (AEI), and European Regional Development Fund (ERDF) |
| <u>Ocean +: Sea Crime in Contemporary Literature and Film</u> | Global Literary Studies Research Lab (GlobalS) | Diana Roig-Sanz | 2019-2021 | Europe Research Stimulus Initiatives 2019, a state R&D programme for societal challenges run by the Spanish Ministry of Science, Innovation and Universities |
| <u>Allocation Methods to Improve the quality of service in Community-owned Systems</u> | Internet Computing & Systems Optimization (ICSO) | Joan Manuel Marquès Puig | 2019-2021 | Spanish Ministry of Science, Innovation and Universities |
| <u>Hybrid patterns in uni- and multi-layer complex networks: theory and applications (HYPAT)</u> | Complex Systems @ IN3 (CoSIN3) | Javier Borge Holthoefér | 2019-2021 | Spanish Ministry of Science, Innovation and Universities |

Appendix 3: Projects

National projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|--|---|-----------|--|
| The political ecology of urban resilience to hydro-climatic events in Spain | Urban Transformation and Global Change Laboratory (TURBA Lab) | Hug March Corbella and Isabel Ruiz Mallén | 2019-2021 | Spanish Ministry of Science, Innovation and Universities |
| An inclusive approach to assessing integrative scenarios and visions for protected area management | Urban Transformation and Global Change Laboratory (TURBA Lab) | Isabel Ruiz Mallén | 2019-2021 | Spanish Ministry of Science, Innovation and Universities |
| Sistemas de posicionamiento local: Enfoque holístico desde las tecnologías base a la ciencia de datos para la monitorización inteligente y no invasiva de personas | Internet Computing & Systems Optimization (ICSO) | Antoni Pérez Navarro | 2019-2021 | Spanish Ministry of Science, Innovation and Universities |
| IOT orientado al consumidor conforme con el GDPR/IOT doméstica | K-riptography and Information Security for Open Networks (KISON) | Farzana Kabir | 2020-2023 | Spanish Ministry of Science, Innovation and Universities |
| Shaping 5G technologies and beyond to support the digitalization of the industry | Wireless Networks (WiNE) | Xavier Vilajosana Guillén | 2019-2021 | Spanish Ministry of Science, Innovation and Universities |

Appendix 3: Projects

National projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|---|---|--------------------------------|-----------|--|
| Spanish Network in Intelligent and Sustainable Transportation | Internet Computing & Systems Optimization (ICSO) | Ángel A. Juan Pérez | 2020-2021 | Spanish Ministry of Science, Innovation and Universities |
| Low-cost, UHF RFID sensor for fabric material detection and on-body sensing | Wireless Networks (WiNE) | Joan Melià Seguí | 2020-2021 | “la Caixa” Foundation |
| Sistemas de Transporte Eficientes y Sostenibles en Ciudades Inteligentes: Internet de las Cosas, Analítica del Transporte, y Algoritmos Ágiles | Internet Computing & Systems Optimization (ICSO) | Ángel A. Juan Pérez | 2020-2023 | Spanish Ministry of Science, Innovation and Universities |
| <u>Gender and Data Science in Sports and Health (GENDASH)</u> | Gender and ICT (GenTIC) e Internet Computing & Systems Optimization (ICSO) <i>(in collaboration with the UOC and the UOC’s FoodLab)</i> | Milagros Sáinz Ibáñez | 2021 | Spanish Higher Sports Council |
| <u>Bots for Open Data Interactions – Conversational interfaces to facilitate the access to public data (BODI)</u> | Systems, Software and Models Research Lab (SOM Research Lab) | Jordi Cabot Sagrera | 2021-2023 | Spanish Ministry of Science, Innovation and Universities |

Appendix 3: Projects

National projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|---|--|--|---------------|--|
| Computación Avanzada para los Retos de la Sociedad Digital (CAROL) | Wireless Networks (WiNE) | Antonio Espinosa Morales and Anna Barbara Sikora | 2021-2024 | Spanish Ministry of Science, Innovation and Universities |
| Gender equality qualities of the platform economy. A framework of analysis | Digital Commons (Dimmons) | Mayo Fuster Morell | 2021-2024 | Spanish Ministry of Science, Innovation and Universities |
| <u>The Novel as Global Form. Poetic Challenges and Cross-border Literary Circulation</u> | Global Literary Studies Research Lab (GlobalS) | Marta Puxan Oliva and Neus Rotger Cerdà | 2021-2024 | Spanish Ministry of Science, Innovation and Universities |
| <u>Low-code development of smart software (LOCOS)</u> | Systems, Software and Models Research Lab (SOM Research Lab) | Jordi Cabot Sagrera and Robert Clarisó Viladrosa | 2021-2024 | Spanish Ministry of Science, Innovation and Universities |

Appendix 3: Projects

Regional projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|--|--------------------------------|-----------|---|
| Aplicacions de l'Anàlisi a Ciutats Intel·ligents i Sostenibles | Internet Computing & Systems Optimization (ICSO) | Ángel A. Juan Pérez | 2018-2021 | Government of Catalonia |
| Aplicaciones de aprendizaje automático, simulación, y metaheurísticas para resolver problemas del mundo real | Internet Computing & Systems Optimization (ICSO) | Daniel Riera Terrén | 2018-2021 | Catalan University and Research Grant Management Agency (AGAUR) and the Government of Catalonia |
| Looming Factory | Wireless Networks (WiNE) | Pere Tuset Peiró | 2019-2021 | Government of Catalonia |
| Predictive maintenance of industrial cooling systems | Wireless Networks (WiNE) | Xavier Vilajosana Guillén | 2019-2022 | Catalan University and Research Grant Management Agency (AGAUR) |
| Aqüicultura Digital Oberta | Wireless Networks (WiNE) | Xavier Vilajosana Guillén | 2019-2021 | Catalan Ministry of Climate Action, Food and Rural Agenda |
| Fem IOT | Wireless Networks (WiNE) | Xavier Vilajosana Guillén | 2019-2022 | Government of Catalonia |

Appendix 3: Projects

Regional projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|--|--------------------------------|-----------|---|
| <u>Open data portal and re-search on the incidence of occupational segregation in the prevalence of COVID-19 from a gender intersectional approach</u> | Gender and ICT (GenTIC) | Lidia Arroyo | 2020-2021 | Catalan University and Research Grant Management Agency (AGAUR) and the Government of Catalonia |
| WiLD: sistema sense fils de detecció de fugues a línies de producció de vehicles | Wireless Networks (WiNE) | Joan Melià Seguí | 2020-2021 | Catalan University and Research Grant Management Agency (AGAUR) and the Government of Catalonia |
| Massive generation of chatbots on-demand (Xatkit) | Systems, Software and Models (SOM Research Lab) | Jordi Cabot Sagrera | 2020-2022 | Agency for Health Quality and Assessment of Catalonia (AQuAS) and the Government of Catalonia |
| EFC: A tool for the assessment of the energetic footprint of cloud computing | Wireless Networks (WiNE) | Xavier Vilajosana Guillén | 2020-2021 | Barcelona Mobile World Capital Foundation |
| Metodologia integral i circular per la presa de decisions comercials | Internet Computing & Systems Optimization (ICSO) | Ángel A. Juan Pérez | 2020-2022 | Catalan Ministry of Climate Action, Food and Rural Agenda |

Appendix 3: Projects

Regional projects

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|--|--|-----------|---|
| <u>ResiCOVID-19 – Evaluation of the impact of COVID-19 pandemic on care homes in Catalonia and proposals to improve the healthcare model</u> | Care and Preparedness in the Network Society (Care-Net) <i>(in collaboration with research groups from other universities/centres)</i> | Daniel López Gómez and Israel Rodríguez Giralt | 2021-2022 | Catalan University and Research Grant Management Agency (AGAUR) |
| <u>WUICOM-BCN Fire Resilient Interface Communities of Barcelona project</u> | Care and Preparedness in the Network Society (CareNet) | Israel Rodríguez Giralt | 2021-2023 | Barcelona City Council |
| <u>Optimizing Carsharing and Ridesharing Mobility in Smart Sustainable Cities</u> | Internet Computing & Systems Optimization (ICSO) | Javier Panadero Martínez and Angel A. Juan Perez | 2021-2023 | Barcelona City Council |
| <u>LIKE-BCN: social accessible, and walkable Barcelona</u> | Complex Systems @ IN3 (CoSIN3) | Albert Solé Ribalta | 2021-2023 | Barcelona City Council |
| <u>Mobility Lab Anoià</u> | K-ryptography and Information Security for Open Networks (KISON) and the UOC's Learning, Media and Entertainment Research Group (GAME) | Pablo Lara Navarra and Jordi Serra-Ruiz | 2021-2022 | Catalan Ministry of the Presidency |

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Appendix 4
Consultancy
services

Appendix 4: Consultancy services

European consultancy services

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|--|--------------------------------|-----------|--|
| The beginning of cognified MDE Platform | Systems, Software and Models Research Lab (SOM Research Lab) | Jordi Cabot Sagrera | 2020-2021 | Commissariat à l'Énergie Atomique et aux Énergies Alternatives |
| e-EQE competencies framework study | K-riptography and Information Security for Open Networks (KISON) | Josep Prieto Blázquez | 2021 | European Patent Office (EPO) |
| Framework Agreement between Universitat Obrerta de Catalunya and ACT Operations Research IT Srl. Development of Simulation-Optimization Solutions in a Real-Life Food Supply Chain | Internet Computing & Systems Optimization (ICSO) | Ángel A. Juan Pérez | 2021-2022 | ACT Operations Research IT Srl |
| Traceable co-evolution and certification in the age of versatile software systems (DI) | Systems, Software and Models Research Lab (SOM Research Lab) | Jordi Cabot Sagrera | 2021-2022 | Commissariat à l'Énergie Atomique et aux Énergies Alternatives |

Appendix 4: Consultancy services

National consultancy services

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|--|--------------------------------|-----------|--|
| Applications of intelligent algorithms, analytics and cloud computing to enhance predictive models associated with catastrophe bonds | Internet Computing & Systems Optimization (ICSO) | Ángel A. Juan Pérez | 2018-2021 | Guy Carpenter & Cia |
| Intelligent Algorithms for Supporting Decision Making in Finance, Insurance, and Banking | Internet Computing & Systems Optimization (ICSO) | Ángel A. Juan Pérez | 2019-2022 | Mutualidad General de Previsión del Hogar Divina Pastora |
| Desarrollo del programa científico-técnico para el despliegue del Proyecto para FHIOS | Internet Computing & Systems Optimization (ICSO) | Ángel A. Juan Pérez | 2021 | Fhios Consultoria Tecnológica, S. L. |
| CYTED GEOLIBERO | Internet Computing & Systems Optimization (ICSO) | Antoni Pérez Navarro | 2021 | CYTED |

Appendix 4: Consultancy services

National consultancy services

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|---|--|--------------------------------|-----------|--|
| Contrato de servicios técnicos científicos entre Aeronaval de Construcciones e Instalaciones SA y la Universitat Oberta de Catalunya | Wireless Networks (WiNE) | Xavier Vilajosana Guillén | 2021 | Aeronaval de Construcciones e Instalaciones, S. A. |
| AI-augmented automation for efficient DevOps, a model-based framework for continuous development At RunTime in cyber-physical systems | Systems, Software and Models Research Lab (SOM Research Lab) | Jordi Cabot Sagraera | 2021-2024 | Spanish Ministry of Science, Innovation and Universities |
| Transform safety-critical cyber-physical systems into distributed solutions for end-users and partners | Systems, Software and Models Research Lab (SOM Research Lab) | Abel Gómez Llana | 2021-2024 | Spanish Ministry of Science, Innovation and Universities |

Appendix 4: Consultancy services


Regional consultancy services

| Project name | Research group | IN3-UOC principal investigator | Period | Funding body |
|--|--|---------------------------------------|---------------|-------------------------|
| <u>Barcelona UOC Chair in Digital Economy: Towards a collaborative economy focused on the wellbeing of people and rights in the city</u> | Digital Commons (Dimmons) | Mayo Fuster Morell | 2020-2022 | Barcelona City Council |
| <u>Dialogues on the management and communication of chemical risk in Tarragona</u> | Care and Preparedness in the Network Society (CareNet) | Israel Rodríguez Giralt | 2021 | Government of Catalonia |
| <u>Servei tècnic desenvolupament auditoria Decidim a UTE FUOC-Goteo</u> | K-ryptography and Information Security for Open Networks (KISON) | David Megías Jiménez | 2021 | Barcelona City Council |
| <u>TDA Cybersecurity</u> | K-ryptography and Information Security for Open Networks (KISON) | Helena Rifà Pous | 2021-2022 | i2CAT Foundation |

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