"Global Simulator for the Study of Human Behavior"



Experimental Economics Laboratory "Nectunt"

Complex Systems & Networks Lab (COSNET), Institute for Biocomputation & Physics of Complex Systems, BIFI, University of Zaragoza, Campus Río Ebro, Zaragoza, Spain

"Global Simulator devoted to the study of human behavior"





Pago garantizado. Remuneración + ganancias extra según resultados del juego

(payment guaranteed)



Participa y juega conectado con otros jugadores

(Play connected with other players)







Universidad 1542 Zaragoza



Nectunt MORES HOMINUM LAB-ZGZ

Social Dilemmas & Human Behavior

Objective: To develop the largest simulator up to date with the aim of studying and understanding in depth human behavior. What are the mechanisms and real motivations that promote the emergence and evolution of cooperation in humans? How individuals behave in different contexts? How financial bubbles are formed? How does the group size influence collective behavior?

European Project: IBSEN, EU, http://ibsen-h2020.eu/

Zaragoza Node: Experimental Economics Lab "NECTUNT", BIFI, Zaragoza. <u>http://nectunt.bifi.es/</u>

Node Responsible: Prof. Yamir Moreno, Head of the Complex Systems and Networks Lab (**COSNET**), BIFI Institute, University of Zaragoza, Spain. <u>http://cosnet.bifi.es/</u>

Members of the Node: Professor Yamir Moreno, **Researcher Dr**. Carlos Gracia-Lázaro, **Engineer,** Alfredo Ferrer Marco (programmer & software developer).

Address/ BIFI Facilities: C/ Mariano Esquillor s/n, Edificio I+D, Campus Río Ebro, Actur, Zaragoza, BIFI Institute, University of Zaragoza.

Collaborating Entity for promoting Science: Ibercivis Foundation (Zaragoza) <u>http://www.ibercivis.es/?lang=es</u>



Social Networks for new calls and general info: @NectuntLab



Social Dilemmas & Human Behavior

- We invite all individuals above legal age wishing to participate in our economic remunerated experiments to sign up and Register at the following link: http://participants.ibsen-h2020.eu/en/join-nectunt. This will allow volunteers to access the different calls and engage in our experiments.

IBSEN Member Countries: Spain, United Kingdom, The Netherlands & Finland.



University Carlos III- Madrid, University of Zaragoza, University of Valencia, University of Oxford, University of Cambridge, University of Amsterdam, Aalto University, Finland

Pl's: Ángel Sánchez, Penélope Hernández, Cars Hommes, Yamir Moreno, Robin Dunbar, Sanjeeev Goyal & Kimmo Kaski

Collaborate with COSNET Lab, BIFI and the University of Zaragoza in a European research project (IBSEN) devoted to create a Simulator of Human Behavior.

In an innovative way, our main goal is to conduct several online experiments recreating different scenarios with thousands of participants from 4 different countries (Spain, UK, The Netherlands and Finland). In addition, typical on-site sessions will also be held in the Experimental Economics Laboratory, **NECTUNT**, located at BIFI Institute, University of Zaragoza, Campus Rio Ebro, Actur. **It is worth highlighting that all experiments will be economically remunerated.**

• What is the motivation behind this project?

The main motivation responds to the need of our modern society of understanding what are the real patterns of human behavior with the purpose of evaluating, implementing and redesigning new economic, social and cooperation policies for the benefit of all.

• What would be the benefits of my participation?

- **1.** You will contribute to the progress of research in this scientific field.
- **2.** You will help us to understand better the real basis of cooperation in human society.
- **3.** Through your participation and contribution, we will try to deepen and unveil one of the greatest enigmas of science to which many researchers around the world have devoted much time and effort: The human behavior.
- **4.** Thanks to your participation, we can also process and analyze diverse data and obtain important conclusions.
- 5. We will provide a pleasant working environment (our modern laboratory at BIFI) in which people can interact with each other, being aware of the extraordinary value of their contributions. <u>http://nectunt.bifi.es/gallery/</u>

* **All adults can register and participate in these experiments.** In case that we launch an experiment in which the participation of children is required, parents' consent will be strictly necessary and they should be those who receive the corresponding economic remuneration.

How to join the volunteers' database of our Lab?

Click on the following link <u>http://participants.ibsen-h2020.eu/en/join-nectunt</u> and register. You only need to register once.

Can I only sign up as participant if I am from Zaragoza, Madrid, Valencia or any other Spanish city?

No. In principle, any person from any country can join the project. Initially, experiments will be only on-site (hence the distinction by Labs or by proximity). Later, online experiments will be conducted once methodological aspects are well defined.

Where will the sessions be published/advertised?

The sessions will be posted in advance on social networks (**Twitter**) and by email. Once the call is released, you just need to register. **We count on you! Thanks a lot!**

Follow us : @NectuntLab

* We will treat the stored data in a strictly confidential way and we will only use them for those purposes for which you have given your consent.

Our Experimental LAB/ Zaragoza



http://nectunt.bifi.es/gallery/



Zaragoza/ Team Members

Yamir Moreno

Professor Yamir Moreno got his PhD in Physics (*Summa Cum Laude*) from University of Zaragoza in 2000. Shortly afterwards, he joined the Condensed Matter Section of the International Centre for Theoretical Physics (ICTP) in Trieste, Italy as a research fellow. He is the head of the Complex Systems and Networks Lab (COSNET) since 2003 and is also affiliated to the Department of Theoretical Physics of the Faculty of Sciences, University of Zaragoza. Prof, Moreno is the Deputy Director of the Institute for Bio-computation and Physics of Complex Systems (BIFI) and member of its Government Board and Steering Committee. During the last years, he has been working on several problems such as: the study of nonlinear dynamical systems coupled to complex structures, transport processes and diffusion with applications in communication and technological networks, dynamics of virus and rumors propagation, game theory, systems biology (the TB case), the study of more complex and realistic scenarios for the modeling of infectious diseases, synchronization phenomena, the emergence of collective behaviors in biological and social environments, the development of new optimization data algorithms and the structure and dynamics of socio-technical and biological systems.

He has published more than 160 scientific papers in international refereed journals and he serves as reviewer for around 30 scientific journals and research agencies. His research works have collected more than 10000 citations (h=40), including the most cited Physics Reports of the last ten years on Complex Networks and their Applications (**Phys. Rep. 424**, 175-304 (2006), 3500+ citations). Prof. Moreno has supervised 8 undergraduate and 7 PhD Thesis at the University of Zaragoza. Currently, 4 more PhD thesis are being supervised. At present, he is a member of the Editorial Board of Scientific Reports and Journal of Complex Networks, and Academic Editor of PLoS ONE. Since September 2014, he is Divisional Associate Editor of Physical Review Letters. Prof. Moreno also belongs to the Executive Committee and Council of the Complex Systems Society (CSS), to the Board of the NetSci Society and to the Future and Emerging Technology Advisory Group of the European Union's Research Program: H2020. Besides, he is a member of the Advisory Board of the WHO

Collaborative Center "Complexity Sciences for Health Systems" (CS4HS) in Vancouver, Canada. He is the elected President of the Complex Systems Society from 2015. Professor Moreno is also Institute for Scientific Interchange (ISI) Fellow, Turin, Italy.

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Carlos Gracia- Lázaro

Dr. Carlos Gracia-Lázaro obtained the BS in Physics in 2006. He got his MSc in Physics and Physical Technologies from University of Zaragoza and some years later, the PhD in Physics (Summa Cum Laude) at the Department of Condensed Matter Physics of the same university (2012), with a thesis entitled "Dynamics and Collective Phenomena of Social Systems". Since then, he has been a member of the Institute for Biocomputation and Physics of Complex Systems (BIFI) of the University of Zaragoza, where he currently works as a research fellow at COSNET Lab. His research interests are mainly focused on Evolutionary Game Theory, Social Dynamics and Complex Networks, and in the application of Physics and Mathematics to Social and Biological Sciences, including also theoretical and experimental studies on cooperation in human society. He has published, jointly with members of COSNET Lab and other universities, several papers in top international scientific journals (Nature Communications, PNAS, Scientific Reports, Physical Review E, PLoS ONE, etc.) and has presented his results at various international conferences and workshops.

Alfredo Ferrer Marco

Alfredo Ferrer Marco was graduated in Computer Engineer at the Higher Polytechnic Engineering Center (CPS) of the University of Zaragoza in 2009. Shortly afterwards, he joined the Institute for Biocomputation and Physics of Complex Systems (BIFI) as a software developer. During these years, Alfredo has attended several scientific and business meetings or events. He masters different programming languages and platforms such as: C++, Java, JavaScript, MySQL, jQuery, PHP, Cloud Computing, etc.

Alfredo actively participated, with another BIFI researchers from the Computer Lab headed by Prof. Alfonso Tarancón in the development of the Web application used for running the PD experiment

that took place in Zaragoza in 2011, which is to date the experiment with a larger number of participants conducted in real time. The application was developed in Ruby On Rails, a technology used by different Websites like Twitter. The tool used for handling and management of the dataset was MySQL. He has also been the leading software developer in several other social dilemma's experiments such as the one exploring reputation in dynamical networks and that inspecting how cooperation evolves across an individual lifetime. Currently, he is part of the **Kampal** Team.

Ibercivis Foundation

The Ibercivis Foundation is a private non-profit organization that was established in Madrid on November 14, 2011 with the collaboration of the Institute for Biocomputation and Physics of Complex Systems (BIFI) of the University of Zaragoza, CIEMAT, CETA-CIEMAT, CSIC and RedIRIS. The main objectives of the foundation are to support citizen science as well as the activities of scientific dissemination and training. Basically, the computer becomes in an open window to science, creating a channel for direct dialogue between researchers and society. Ibercivis is a distributed computing platform based on BOINC, that allows Internet users to participate in scientific projects by donating computing cycles used to perform simulations and other tasks. The number of users of Ibercivis has grown significantly in recent years to several tens of thousands. Its current director is the Rector of the University of Zaragoza, José Antonio Mayoral. From Ibercivis, we will count with the help of Fermín Serrano Sanz and Mari Carmen Ibáñez.



YAMIR MORENO



CARLOS GRACIA-LÁZARO



ALFREDO FERRER MARCO



FERMÍN SERRANO



MARI CARMEN IBÁÑEZ

