

Dr. Ismael Martínez-Martínez

GAME THEORY · MICROECONOMICS · MATHEMATICAL PSYCHOLOGY

Düsseldorf Institute for Competition Economics (DICE) - Heinrich-Heine-Universität Düsseldorf
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✉ ismael@imartinez.eu | 🌐 www.imartinez.eu | Born on April 3rd, 1989, in Madrid (Spain)

Current position

Düsseldorf Institute for Competition Economics (DICE) Heinrich-Heine-Universität Düsseldorf

POSTDOCTORAL RESEARCHER

- Theoretical and experimental research in game theory, decision-making and behavioral topics.
- Lectures and tutorials on game theory and microeconomic theory.

Düsseldorf, Germany

Dec. 2016 – Present

Education

Ph.D. in Economics (Dr. rer. pol., summa cum laude)

DICE - HEINRICH-HEINE-UNIVERSITÄT DÜSSELDORF

- Dissertation: “Three essays on equilibrium selection with coupled populations”
- First advisor: Prof. Dr. Hans-Theo Normann
- Second advisor: Prof. Dr. Alexander Rasch
- Chair of the committee: Prof. Dr. Paul Heidhues

Düsseldorf, Germany

Oct. 2013 – Nov. 2016

M.Sc. in Economic Analysis

UNIVERSITÉ DE CERGY-PONTOISE

- Main focus on quantitative methods
- Master thesis: “On the Hamiltonian of strategic interaction and its application in the ultimatum game”
- Advisor: Prof. Dr. Eric Danan

Grand Paris, France

Sep. 2012 – Jul. 2013

M.Sc. in Theoretical Physics (first class honors)

UNIVERSITÉ DE CERGY-PONTOISE

- Main focus on Monte Carlo methods, networks and dynamical systems
- Master thesis: “Implementation of economic gas-like models–Influence of the underlying topology”
- Advisor: Prof. Dr. Ricardo López-Ruiz

Grand Paris, France

Sep. 2011 – Jul. 2012

Licentiate in Physics

UNIVERSITY OF ZARAGOZA

- First Diploma Thesis: “Characterization of multipartite entanglement in bipartite systems” (adv.: Prof. Dr. Manuel Asorey)
- Second Diploma Thesis: “Negativity of Wigner’s function as an entanglement measure” (adv.: Prof. Dr. José M. Gracia-Bondía)

Zaragoza, Spain

Sep. 2007 – Jun. 2012

International Baccalaureate - IBO Diploma

I.E.S. PRÁXEDES MATEO SAGASTA

Logroño, Spain

Sep. 2005 – Jun. 2007

Previous positions

Düsseldorf Institute for Competition Economics (DICE)

DOCTORAL RESEARCHER

NUMBER26 GmbH

PRODUCT MANAGER INTERN

Department of Systems Engineering and Computer Science, Uni. Zaragoza

JUNIOR RESEARCHER

Institute of Nanoscience of Aragón

SUMMER RESEARCH INTERN

Düsseldorf, Germany

Oct. 2013 - Nov. 2016

Berlin, Germany

Jan. 2016 - Apr. 2016

Zaragoza, Spain

Sep. 2011 - Jul. 2012

Zaragoza, Spain

Jul. 2010 - Oct. 2010

Grants & Awards

GRANTS

- 2017-18 Research project *Continuous-time games with coupled populations*, HHU Strategic Research Fund, 82.000+ EUR
- 2013-16 Ph.D. scholarship, Düsseldorf Institute for Competition Economics
- 2012-13 Merit scholarship, *Bourse d'Excellence*, Université de Cergy-Pontoise
- 2011-12 Research grant, Ministry of Education of Spain
- 2011-12 Erasmus scholarship, Exchange student in France

AWARDS

- 2017 Rolf-Schwarz-Schütte Prize, best publication record of a junior researcher at DICE in 2016 (ceremony on Oct 25th)
- 2017 Selected seminar presenter, 6th Lindau Nobel Laureate Meeting on Economic Sciences
- 2007 Silver medal, XVIII Spanish Physics Olympiad, national contest
- 2006 Selected member, European Union Science Olympiad, Spanish national contest

Publications

IN PEER-REVIEWED JOURNALS

- 2017 Perturbed best response dynamics in a hawk-dove game [6]
Economics Letters 153 (2017) 61–64, with Volker Benndorf
- A quantum-like model for complementarity of preferences and beliefs in dilemma games [5]
Journal of Mathematical Psychology 78 (2017) 96–106, with Jacob Denolf, Haeike Josephy and A. Barque-Duran
- 2016 Equilibrium selection with coupled populations in hawk-dove games—Theory and experiment in continuous time [4]
Journal of Economic Theory 165 (2016) 472–486, with Volker Benndorf and Hans-Theo Normann
- Quantum stochastic walks on networks for decision-making [3]
Scientific Reports 6 (2016) 23812, 1-13, with Eduardo Sánchez-Burillo
- 2014 A connection between quantum decision theory and quantum games—The Hamiltonian of strategic interaction [2]
Journal of Mathematical Psychology 58 (2014) 33-44
- 2013 Directed random markets: connectivity determines money [1]
International Journal of Modern Physics C 24, 1 (2013) 125088, with Ricardo López-Ruiz

IN PEER-REVIEWED COLLECTED VOLUMES

- 2016 Do preferences and beliefs in dilemma games exhibit complementarity? [2]
Springer Lecture Notes in Computer Science (Atmanspacher et al., Eds.) 9535 (2016) 142-153,
with Jacob Denolf and Albert Barque-Duran
- 2015 Games with type indeterminate players [1]
Springer Lecture Notes in Computer Science (Atmanspacher et al., Eds.) 8951 (2015) 223-239,
with Ariane Lambert-Mogiliansky

Refereeing activities

Economics Letters · Entropy · Games and Economic Behavior · Journal of Mathematical Psychology · Mathematical Social Sciences · Philosophical Transactions of the Royal Society A · PLOS One · Theory and Decision

Teaching

DICE - Heinrich-Heine-Universität Düsseldorf

LECTURES

- Advanced Microeconomics—Game theory (Ph.D., Winter Semester 2017-2018)
- Game theory (M.Sc., Summer Semester 2017)

TUTORIALS

- **Advanced Microeconomics–Game Theory** (Ph.D. course, Winter Semester 2016-2017, and 2017-2018)
- **Advanced Microeconomics–Microeconomic Theory** (Ph.D. course, Winter Semester 2016-2017, and 2017-2018)
- **Game Theory** (M.Sc., Summer Semester 2017)

Seminar and conference presentations

2017: Microeconomics Seminar at the 6th Lindau Nobel Laureate Meeting on Economic Sciences (Lindau, Germany) · HHL Leipzig Graduate School of Management (Leipzig, Germany) · 2015: European Meeting of the Economic Science Association (Heidelberg, Germany) · Quantum Interaction Conference 15 (Filzbach, Switzerland), Quantum Models of Cognition Symposium (Nice, France) · 2014: Quantum Interaction Conference 14 (Filzbach, Switzerland) · 2013: International Workshop on Non-Linear Maps and Applications (Zaragoza, Spain)

Other skills

Programming C/C++, Java, ConG and other environments for experimental procedures

Software Unix/Linux, Mathematica and algebraic packages, R and Stata, Latex environment

Languages Spanish (native), English (academic proficiency), German (intermediate), French (basic)

References

Available upon request