



Ioannis Kordonis

Curriculum Vitae

Personal Data

Citizenship **Greek.**
Date of Birth **October 17th 1986.**
Place of Birth **Drama, Greece.**
Marital Status **Married.**

Contact Information

Tel **+306984936024.**
Email **jkordonis1920@yahoo.com.**
Address **Iliados 8th, Athens, Greece, 11633.**

Research Interests

My research interests lie in theoretical topics of Game Theory with an emphasis on Dynamic Games and Stochastic Control theory with applications in the areas of Energy – Power Systems and Transportation Systems. I am also interested in Control and Game Theoretic aspects of Multiagent Systems.

Work Experience

Research Associate Mar. 2020 – Now
National Technical University of Athens, Greece

Description Researcher
ATER Jan. 2019 – Jun. 2019
IETR - Institut d'Electronique et de Télécommunications de Rennes

Description Temporary Teaching and Research Position
Research Optimal management of grid connected battery energy storage systems
Advisor A. Charalampidis

Postdoctoral Research Jun. 2017 – Dec. 2018
IETR - Institut d'Electronique et de Télécommunications de Rennes

Topic Optimal coordinated management of battery energy storage systems
Advisor A. Charalampidis

Postdoctoral Research Sep. 2016 – May 2017
University of Southern California, Los Angeles, California, USA

Topic Game Theoretic techniques for Multi-modal Freight Transportation Networks
Advisors P. Ioannou, M. Dessouky

Postdoctoral Research Sep. 2015 – Jul. 2016
National Technical University of Athens, Greece

Topic Max-Plus Stochastic Systems Stability and Identification
Advisors G. P. Papavassilopoulos, P. Maragos

Education

PhD in Electrical Engineering Nov. 2009 – June 2015
National Technical University of Athens, Greece

Thesis *Dynamic Games with a Large Number of Players: Random Entrance and Random Interconnections*

Advisor George P. Papavassilopoulos

Committee G. P. Papavassilopoulos, P. Maragos N. Karcantias

Diploma in Electrical and Computer Engineering National Technical University of Athens, Greece 2004-2009

Major Systems and Control Theory

Minor Electronics and Electrical Machines

GPA 8.16/10

Thesis Nonlinear Control Techniques for HIV-1 Models

Advisor G. P. Papavassilopoulos

Funding

2018 **Programme PRESTIGE post-doc: Campus France (PRESTIGE-2017-4-0014).**

Awards/Scholarships

2011–2014 **ELKE Scholarship**, (*Special Account for Research of the National Technical University of Athens*).

- 2000–2004 **National Student Contest Awards in Mathematics, Physics and Chemistry.**
Mathematics: Second place in the Panhellenic Mathematics contest Euclid of the Greek Mathematical Society, 2001
Physics: Second place in the Panhellenic Physics contest 2003. Fifth place in the Panhellenic Physics contest 2004.
Chemistry: First place in the Panhellenic Chemistry contest 2001. First place in the Panhellenic Chemistry contest 2002 (second round). First place in the Panhellenic Chemistry contest 2003 (second round). Second place in the Panhellenic Chemistry contest 2004
- 2003–2004 **International Student Contest Awards in Physics and Chemistry.**
Physics: Bronze medal in the XXXV International Physics Olympiad in Pohang (Korea), 2004
Chemistry: Bronze medal in the 35th International Chemistry Olympiad in Athens, Greece, 2003

Publications

Journal Publications

- J1 I. Kordonis, G. P. Papavassilopoulos "On stability and LQ control of MJLS with a Markov chain with general state space", IEEE Transactions on Automatic Control, Vol. 59, No. 2, pp. 535–540, 2014
- J2 I. Kordonis, G. P. Papavassilopoulos "LQ Nash Games With Random Entrance: An Infinite Horizon Major Player and Minor Players of Finite Horizons", IEEE Transactions on Automatic Control, Vol. 60, No. 6, pp. 1486–1500, 2015
- J3 I. Kordonis, G. P. Papavassilopoulos "Games on Large Networks: Information and Complexity", IEEE Transactions on Automatic Control, Vol. 62, No. 7, pp. 3178–3192, 2017
- J4 I. Kordonis, A. C. Charalampidis, G. P. Papavassilopoulos "Pretending in Dynamic Games, Alternative Outcomes and Application to Electricity Markets", Dynamic Games and Applications, Springer, Vol. 8, No. 4, pp. 844–873, 2018
- J5 I. Kordonis, P. Maragos, G. P. Papavassilopoulos "Stochastic Stability in Max-Product and Max-Plus Systems with Markovian Jumps", Automatica, Elsevier, Vol. 92, pp. 123–132, 2018
- J6 S. Patmanidis, A. C. Charalampidis, I. Kordonis, G. D. Mitsis and G. P. Papavassilopoulos "Tumor growth modeling: Parameter estimation with Maximum Likelihood methods", Computer Methods and Programs in Biomedicine, Vol. 160, pp. 1–10, 2018
- J7 A. Papadopoulos, I. Kordonis, M. Dessouky, P. Ioannou "Coordinated Freight Routing with Individual Incentives for Participation", IEEE Transactions on Intelligent Transportation Systems, Vol. 20, No. 9, 2019
- J8 I. Kordonis, M. Dessouky, P. Ioannou "Mechanisms for Cooperative Freight Routing: Incentivizing Individual Participation", IEEE Transactions on Intelligent Transportation Systems Vol. 21, No. 5, 2019
- S9 S. Patmanidis, A. C. Charalampidis, I. Kordonis, G. D. Mitsis and G. P. Papavassilopoulos " Individualized growth prediction of mice skin tumors with maximum likelihood estimators", Computer Methods and Programs in Biomedicine, Vol. 185, March 2020

Book Chapters

- BC1 I. Kordonis, G. P. Papavassilopoulos "Effects of Players' Random Participation to the Stability in LQ Games", Advances in Dynamic and Mean Field Games, eds. Apaloo, Joseph, and Bruno Viscolani, 2018
- BC2 I. Kordonis "A Model for Partial Kantian Cooperation", to appear in the Advances in Dynamic Games and Applications, edited by David Ramsey and Jerome Renault. An early version is available online arXiv:1609.01921v2

Submitted Papers

- S1 A. Papadopoulos, I. Kordonis, M. Dessouky, P. Ioannou "Personalized Pareto-Improving Pricing-and-Routing Schemes for Near-Optimum Freight Routing: An Alternative Approach to Congestion Pricing", submitted to Transportation Science Part C
- S2 I. Kordonis, A. C. Charalampidis, P. Haessig "Optimal Control of MDP over a Long Operation-Dependent Time Horizon and Application to Battery Energy Storage Systems", submitted to IEEE Transactions on Automatic Control
- S3 A.-R. Lagos, I. Kordonis, G. P. Papavassilopoulos "Games of Social Distancing during an Epidemic: Local vs Statistical Information", submitted to Dynamic Games and Applications

Conference Publications

- C1 I. Kordonis, G. P. Papavassilopoulos "A Nash LQG Game with an Infinite Horizon Major Player and Many Randomly Entering Minor Players of Different Time Horizons", Eighth International ISDG Workshop, 2011, Padova
- C2 I. Kordonis, G. P. Papavassilopoulos "LQ Nash Games with Players Participating in the Game for Random Time Intervals", 15th International Symposium on Dynamic Games and Applications, 2012 Bysice, Czech Republic
- C3 I. Kordonis, G. P. Papavassilopoulos "Games on Large Random Interaction Structures: Information and Complexity Aspects", IEEE CDC, Firenze 2013 (invited)
- C4 I. Kordonis, G. P. Papavassilopoulos "Dynamic Games among Agents with Partial Information of the Structure of the Interactions Graph: Decision Making and Complexity Issues", IEEE SMC, Manchester 2013 (invited)
- C5 I. Kordonis, G. P. Papavassilopoulos "Cheating in Adaptive Games Motivated by Electricity Markets", 6th International Symposium on Communications, Control and Signal Processing, IEEE 2014 Athens
- C6 I. Kordonis, G. P. Papavassilopoulos "Network Design for Fast Convergence to the Nash Equilibrium in a Class of Repeated Games", 24th Mediterranean Conference on Control and Automation, Athens, Greece June 21-24, 2016
- C7 I. Kordonis, G. P. Papavassilopoulos "Random Entrance and Duration of Overlapping Generation Games: Impact on Stability and Gains", 17th International Symposium on Dynamic Games and Applications, July 12-15, 2016, Urbino, Italy
- C8 S. Patmanidis, A. C. Charalampidis, I. Kordonis, G. P. Papavassilopoulos, G. D. Mitsis "Comparing Methods for Parameter Estimation of the Gompertz Tumor Growth Model", 2017 IFAC World Congress

- C9 I. Kordonis, G. P. Papavassilopoulos "Network Design in the Presence of a Link Jammer: a Zero-Sum Game Formulation", 2017 IFAC World Congress
- C10 I. Kordonis "A Model for Partial Kantian Cooperation", presented at European Meeting on Game Theory SING14, June 2018, Bayreuth, Germany
- C11 I. Kordonis, A. Papadopoulos, M. Dessouky, P. Ioannou "Mechanisms for Cooperative Truck Routing" presented in the 18th International Symposium on Dynamic Games and Applications July 9-12, 2018, Grenoble, France
- C12 A. Papadopoulos, M. Dessouky, P. Ioannou, I. Kordonis "A Coordination Mechanism for the Freight Routing Problem with Discrete Time Intervals", presented in the 18th IEEE European Control Conference (ECC), 2019
- C13 A. Papadopoulos, M. Dessouky, P. Ioannou, I. Kordonis "Pareto-Improving Pricing Schemes for Route Assignment of Heterogeneous Users", presented in the 2020 IFAC World Congress
- C14 I. Kordonis, A. C. Charalampidis, G. P. Papavassilopoulos "A Nonlinear Control Approach for an HIV-1 Model", 4th Conference of student Electrical Engineers, Patras, Greece, Nov 2010

Under Preparation

- P1 I. Kordonis, A. C. Charalampidis, P. Haessig "Optimal Battery Participation in Regulation Markets", preparing for conference submission
- P2 I. Kordonis, A. C. Charalampidis, "A Two Time Scale Approach for Optimal Management of Grid Connected Batteries ", preparing for journal submission
- P3 A. R. Lagos, I. Kordonis, G. P. Papavassilopoulos, "Games with Equity Constraints", preparing for journal submission
- P4 I. Kordonis, A. R. Lagos, G. P. Papavassilopoulos, "Nash Social Distancing Games with Equity Constraints: How Inequality Aversion Affects the Spread of Epidemics", preparing for journal submission

Theses

- PhD Thesis I. Kordonis "Games with a Large Number of Players: Random Entrance and Random Interconnections", PhD Thesis, National Technical University of Athens, 2015
- Diploma Thesis I. Kordonis "Nonlinear Control Techniques for HIV-1 models", Diploma Thesis, National Technical University of Athens, 2009 (in Greek)

Theoretical Background

Graduate Courses on:

- Measure Theoretic Probability
- Functional Analysis
- Control Theory
- Optimization Theory and Algorithms
- Topology
- Game Theory
- Nonlinear Control

Teaching Experience

ATER Position The ATER position, gave me the opportunity to give lectures in several courses, prepare material and also get familiarized with various pedagogical methods

Teaching Assistance During my PhD, I provided teaching assistance in several control courses such as Control System Design, Advanced Control Techniques, Nonlinear Control Techniques and Applications, Stochastic Control. The work varied involving: Preparing the material, Teaching in class, Preparing and/or correcting the final exams.

An important part of my experience comes from the teaching assistance for the course "Nonlinear Control Techniques and Applications". I was responsible for the 50% of the teaching of this course, for five years

Computer skills

Good Windows, Office, Latex

Very Good C, Matlab, GAMS, Julia

Languages

English Fluent

French Beginner's Level

Greek Mother tongue

Membership in Professional Societies

IEEE Member

General Interests

- History and Politics

- Sports

- Popular Science