

Dr. Konstantinos E. Giannakis

BSc, MSc, PhD
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Education

- **Dept. of Informatics, Ionian University** Corfu, Greece
BSc 2007 - 2011
 - Grade: 7.22/10
 - BSc thesis: *Specialized issues in Computation Theory: Büchi automata and 2nd-order Logic*
- **Dept. of Informatics, Ionian University** Corfu, Greece
MSc 2011 - 2013
 - Grade: 9.72/10
 - MSc thesis: *Probabilistic Computation and non-terminating systems*
- **Dept. of Informatics, Ionian University** Corfu, Greece
PhD 2013 - 2016
 - *Infinite and Standard Computation with Unconventional and Quantum Methods Using Automata*
 - Supervisor: Dr. Theodore Andronikos, Assistant Professor, Dept. of Informatics, Ionian University
 - Grade: *Excellent*

Research Interests

Theory of Computation, Algorithms, Automata Theory, Algorithms, Quantum and Unconventional Computation, Probabilistic models of Computation and Logic, and Semantic Web

Participation in Funded Projects

- 2012 - 2015
 - Development team of the project “Buildings, Culture and Environment in a Virtual World”
- 2014 - 2015
 - Development team of the project “Open Academic Courses”

Professional Experience

- 2015 - 2016 Secretariat, Dept. of Foreign Languages, Translation and Interpreting, Ionian University
 - *IT support and office duties.*
- 2013 - 2015 Library, Ionian University
 - *IT support and library duties.*
- 2011 Internship
 - *Internship in the technical Dept. of OTE (Greek Telecommunications Organization).*

Teaching experience

- Winter semester 2015-16
Assisting in the conducting of the lab for the course “Introduction to Molecular and Quantum Computation”, Dept. of Informatics, Ionian University.
- Spring semester 2013-14, 2014-15
Conducting of the lab for the course “Computer programming”, Dept. of Informatics, Ionian University.
- Winter semester 2013-14, 2014-15, 2015-16
Conducting of the lab for the course “Introduction in Programming”, Dept. of Informatics, Ionian University.
- Spring semester 2011-12, 2012-13, 2013-14, 2014-15, 2015-16
Conducting of tutorial lessons for the courses “Algorithms” and “Theory of Computation”, Dept. of Informatics, Ionian University.
- Spring semester 2011-12
Conducting of the labs for the course “Virtual Reality”, Dept. of Informatics, Ionian University. Assistance for the conducting of the course “Social and Cooperative Systems”, Dept. of Informatics, Ionian University.
- Winter semester 2011-12
Conducting of the labs for the courses “Computer Graphics” and “Videogames”, Dept. of Informatics, Ionian University.

Theses supervision and co-supervision

- Kalliopi Kastampolidou. BSc Thesis: “Quantum games and group theory”, Dept. of Informatics, Ionian University. Supervisor: Theodore Andronikos, 2016.
- Anastasios Lafazanis. BSc Thesis: “Automata variants in Computation Theory”, Dept. of Informatics, Ionian University. Supervisor: Theodore Andronikos, 2015.
- Antonis Kontakis. BSc Thesis: “Quantum Computation - Presentation and analysis of Quantum Gates”, Dept. of Informatics, Ionian University. Supervisor: Theodore Andronikos, 2015.
- Christos Archontis. BSc Thesis: “Introduction to Temporal Logic”, Dept. of Informatics, Ionian University. Supervisor: Theodore Andronikos, 2012.

Talks/Presentations

- December, 2016. *Two Lectures on Networking technologies,* for the course “Advanced Topics in Data Networks” of the Programme of Postgraduate Studies-MSc Informatics, Dept. of Informatics, Ionian University, Corfu, Greece.
- October, 2016. *Chair of NUBACoM Workshop and paper’s presentation,* in the 2nd World Congress on Geriatrics and Neurodegenerative Disease Research, Sparta, Greece.
- February, 2016. *Lecture on Bioinformatics and bio-inspired computational methods,* for the course “Bioinformatics” of the Programme of Postgraduate Studies-MSc Informatics, Dept. of Informatics, Ionian University, Corfu, Greece.
- 2013-2016. Set-up of workshops and tutorial for students on writing manuscripts using Latex
- July, 2015 *“Quantum automata for infinite periodic words,”* in the 6th International Conference on Information, Intelligence, Systems and Applications (IISA), Corfu, Greece.
- July, 2015. *“Initialization methods for the TSP with Time Windows using Variable Neighborhood Search,”* in the 6th International Conference on Information, Intelligence, Systems and Applications (IISA), Corfu, Greece.
- April, 2015. Coordination of a workshop within the seminar “1st Seminar for the Coordinators of the Network of Sustainable Technology in Environmental Education Center of Corfu” entitled *“Affordable Virtual Reality Applications for Educational Purposes,”* Corfu, Greece.
- October, 2014. *“Querying Linked Data and Büchi Automata,”* in the 9th International Workshop on Semantic and Social Media Adaptation and Personalization (SMAP), Corfu, Greece.
- June, 2014. Talk in the seminar “Modern educational approaches for the natural and anthropogenic environment” entitled *“Constructing a Virtual World,”* Ithaca, Greece.

- June, 2014. Coordination of a workshop within the seminar “Modern educational approaches for the natural and anthropogenic environment” entitled “*Virtual Worlds Construction Lab*,” Ithaca, Greece.
- April, 2014. *Mitochondrial fusion through membrane automata*,” in the 1st World Congress on Geriatrics and Neurodegenerative Disease Research, Corfu, Greece.
- December, 2013. Coordination of a workshop within the seminar “Introduction to Environmental Education” entitled “*Implementation of Virtual Worlds in Learning*,” Corfu, Greece.
- September, 2012. *Web mining to create semantic content: A case study for the environment*, in 1st MWDM in AIAI 2012, Chalkidiki, Greece.

Skills

- Windows OS, Unix-like systems
- LaTeX
- Programming Languages and platforms: C/C++, Java, MATLAB, PHP
- Basic RDBM Systems
- Web development
- 3d modeling and Game Engines
- Image processing
- Cambridge International Diploma in IT Skills (Diploma at Standard Level) and IT Skills Proficiency

Languages

Greek, English, French

Reviewer and Committees

- Served as a reviewer
 - Journals
 - * IEEE Transactions on Industrial Informatics
 - * Artificial Intelligence in Medicine, Elsevier
 - International Conferences
 - * TENCON 2015 by IEEE, Macau, China
 - * 2nd International Symposium on Intelligent Systems Technologies and Applications (ISTA '16) by Springer, Jaipur, India
 - * 25th European Conference on Information Systems (ECIS 2017), Guimaraes, Portugal
 - External reviewer for grant proposals
 - * National Fund for Scientific and Technological Development (FONDECYT) of the Chilean National Commission for Scientific and Technological Research (CONICYT), 2017
- Committees and Editorials
 - Co-Chair of the Organizing Committee of the Natural, Unconventional, and Bio-inspired Algorithms and Computation Methods Workshop (NUBACoM 2016) by Springer, Sparta, Greece, 2016
 - Guest editor, Journal of Computation, Special Issue in “Computational Aspects Related to Unconventional, Bio-Inspired and Quantum Methods”
 - Program Committee: 3rd International Symposium on Intelligent Systems Technologies and Applications (ISTA '17) by, Manipal, India
 - Program Committee: International Conference on Composite Materials Renewable Energy Applications (ICCMREA 2017) by IEEE, Istanbul, Turkey

Membership in Scientific Societies, Research Lab and groups

- Member of scientific associations and societies
 - Computability in Europe
 - IEEE Computer Society
 - ACM SIGACT
- Research Labs and Groups
 - Bioinformatics and Human Electrophysiology Lab (BiHELab), Dept. of Informatics, Ionian University
 - Networks, Multimedia and Security Systems Laboratory (NMSLab), Dept. of Informatics, Ionian University
 - Quantum and Unconventional Computing research group (QUIT), Dept. of Informatics, Ionian University
 - * founding member

Publications

Articles in Refereed International Journals

- [1] Konstantinos Giannakis, Georgia Theocharopoulou, Christos Papalitsas, Theodore Andronikos, and Panayiotis Vlamos. “Associating ω -automata to path queries on Webs of Linked Data”. In: *Engineering Applications of Artificial Intelligence* 51 (2016). Mining the Humanities: Technologies and Applications, pp. 115–123. ISSN: 0952-1976. DOI: <http://dx.doi.org/10.1016/j.engappai.2016.01.013>.
- [2] Konstantinos Giannakis and Theodore Andronikos. “Membrane automata for modeling biomolecular processes”. In: *Natural Computing* (2015), pp. 1–13. ISSN: 1572-9796. DOI: 10.1007/s11047-015-9518-1.
- [3] Konstantinos Giannakis and Theodore Andronikos. “Use of Büchi automata and randomness for the description of biological processes”. In: *International Journal of Scientific World* 3.1 (2015), pp. 113–123. ISSN: 2307-9037.
- [4] Konstantinos Giannakis, Christos Papalitsas, Kalliopi Kastampolidou, Alexandros Singh, and Theodore Andronikos. “Dominant Strategies of Quantum Games on Quantum Periodic Automata”. In: *Computation* 3.4 (2015), pp. 586–599.

Book Chapters

- [5] Andreas Giannakis, Konstantinos Giannakis, and Athanasios Karlis. “An Approach of Non-Linear Systems through Fuzzy Control based on Takagi-Sugeno Method”. In: *GeNeDis 2016*. Ed. by Panayiotis Vlamos. Advances in Experimental Medicine and Biology. Springer International Publishing, 2016, (to appear).
- [6] Konstantinos Giannakis, Alexandros Singh, Kalliopi Kastampolidou, Christos Papalitsas, and Theodore Andronikos. “QM automata - A new class of restricted quantum membrane automata”. In: *GeNeDis 2016*. Ed. by Panayiotis Vlamos. Advances in Experimental Medicine and Biology. Springer International Publishing, 2016, (to appear).
- [7] Alexandros Singh, Konstantinos Giannakis, Kalliopi Kastampolidou, and Theodore Andronikos. “Methods and Patterns for User-friendly Quantum Programming”. In: *GeNeDis 2016*. Ed. by Panayiotis Vlamos. Advances in Experimental Medicine and Biology. Springer International Publishing, 2016, (to appear).
- [8] Konstantinos Giannakis and Theodore Andronikos. “Mitochondrial Fusion Through Membrane Automata”. In: *GeNeDis 2014*. Ed. by Panayiotis Vlamos and Athanasios Alexiou. Springer International Publishing, 2015, pp. 163–172. ISBN: 978-3-319-09011-5.

Articles in Refereed International Conferences

- [9] Konstantinos Giannakis, Christos Papalitsas, and Theodore Andronikos. “Quantum automata for infinite periodic words”. In: *Information, Intelligence, Systems and Applications (IISA), 2015 6th International Conference on*. IEEE. 2015, pp. 1–6.
- [10] Christos Papalitsas, Konstantinos Giannakis, Theodore Andronikos, Dimitrios Theotokis, and Angelo Sifaleras. “Initialization methods for the TSP with time windows using variable neighborhood search”. In: *Information, Intelligence, Systems and Applications, IISA 2015, The 6th International Conference on*. IEEE. 2015.
- [11] Georgia Theocharopoulou, Konstantinos Giannakis, and Theodore Andronikos. “The mechanism of splitting mitochondria in terms of membrane automata”. In: *2015 IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)*. IEEE. 2015, pp. 397–402.

- [12] Konstantinos Giannakis and Theodore Andronikos. “Querying linked data and Büchi automata”. In: *Semantic and Social Media Adaptation and Personalization (SMAP), 2014 9th International Workshop on*. IEEE, 2014, pp. 110–114.
- [13] Konstantinos Giannakis, Konstantinos Chorianopoulos, and Letizia Jaccheri. “User Requirements for Gamifying Sports Software”. In: *Proceedings of the 3rd International Workshop on Games and Software Engineering: Engineering Computer Games to Enable Positive, Progressive Change*. GAS '13. San Francisco, California: IEEE Press, 2013, pp. 22–26. ISBN: 978-1-4673-6263-4.
- [14] Georgia Theodoropoulou and Konstantinos Giannakis. “Web Mining to Create Semantic Content: A Case Study for the Environment”. In: *Artificial Intelligence Applications and Innovations: AIAI 2012 International Workshop: MHDW, Halkidiki, Greece, September 27-30, 2012, Proceedings, Part II*. Berlin, Heidelberg: Springer Berlin Heidelberg, 2012, pp. 411–420. ISBN: 978-3-642-33412-2. DOI: 10.1007/978-3-642-33412-2_42.

Articles in Refereed Greek Conferences

- [15] Stefanos Koursaris and Konstantinos Giannakis. “Hellenic Natural Resources with Ontologies”. Local proceedings. 2011.

Hobbies

reading, movies, social networks, sports.