

# KONSTANTINOS OIKONOMOU

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## OCCUPATION

**December 2017 - present**  
**Ionian University**  
**Dean of the Faculty of Information Science and Informatics (FISI)**  
Elected for a three year term as Dean of FISI that consists of the Dept. of Informatics the Dept. of Archives, Library Science and Museology and the Dept. of Digital Media and Communication

**May 2018 - present**  
**Ionian University**  
**Dept. of Informatics**  
**Director of M.Sc. course “Research Directions in Informatics”**  
This M.Sc. course focuses to build a strong research background for students that require to follow a research directions in Informatics

**May 2017-October 2017**  
**Head of the Department of Informatics**  
A new legislation (August 2017) allowed for the Dean candidacy

**April 2007 - present**  
**Ionian University**  
**Dept. of Informatics**  
**Faculty member (Computer Networks)**  
Associate Professor (April 2017-present), Assistant Professor (June 2011-April 2017), Lecturer (April 2007-June 2011)

## EDUCATION

**2000 - 2004**  
**National and Kapodistrian University of Athens**  
**Ph.D. (Dept. of Informatics & Telecommunications)**  
*Ph.D. Thesis Title:* Topology-Unaware TDMA MAC Policies for Ad Hoc Networks

**1998 - 1999**  
**Imperial College**  
**M.Sc./DIC in Communications and Signal Processing (Electrical & Electronic Engineering Dept.)**  
*M.Sc. Thesis Title:* Data Link Control Optimization in Multiple Access for Mobile Communications

**1993 - 1998**  
**University of Patras**  
**MEng (Dept. of Computer Engineering & Informatics)**  
5 years full time study at the Faculty of Engineering.  
*Diploma Thesis Title:* Modern Video Coding Techniques

**Languages**  
**Greek and English**  
Fluently

## WORK EXPERIENCE

**10/2004 - 6/2010**  
**National and Kapodistrian University of Athens**  
*Dept. of Informatics & Telecommunications*  
Post-Doctoral Research in Autonomous Networks

**10/2006 - 4/2007**  
**Ionian University - Dept. of Informatics**  
Teaching two courses in the area of computer networks

**3/2006 - 8/2006**  
**University of Ioannina - Dept. of Informatics**  
Teaching two courses in the area of computer networks

**12/1999 - 1/2005**  
**Intracom S.A. - R&D General Division**  
Full time occupation as a research and development engineer

## TEACHING EXPERIENCE

**Courses**  
**Undergraduate and Postgraduate**  
Computer Networks, Distributed Networks and Algorithms, Wireless Networks, Virtual Reality, Information Theory

**Supervision**  
**Ph.D.**  
Supervision of 6 Ph.D. Graduates  
Supervision (currently) of 4 Ph.D. Candidates

**Undergraduates and Postgraduates**  
Supervision of 71 student theses (29 undergraduates and 42 postgraduates)

## MISCELLANEOUS

### Summer Schools

Organization and/or participation in 4 summer schools

### Committees and Boards

Current or past member of 7 committees related to ICT, monitoring the regional programme, the regional development company, etc.

### Invited Talks

He has given 6 key talks in the area of networking, green ICT and virtual reality infrastructures

## RESEARCH ACTIVITIES

### R&D Project Coordination

Coordination of 9 main Research and Development projects

### Conference Chairing

Chairing of 9 conferences in the area of communications and networking

### Journal Editing

Member of the editorial board of Computer Networks, Elsevier, since January 2019

### Reviewing

Various respectful conference and journals including IEEE Infocom, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Wireless Communications, IEEE Transactions on Vehicular Technology, IEEE Communications Magazine, IEEE Sensors Journal, IEEE Communications Letters, Computer Network (Elsevier), Ad Hoc Networks (Elsevier), Computer Communications (Elsevier), Pervasive and Mobile Computing (Elsevier) and many more (e.g., WoWMoM, NETWORKING, AOC, MedHocNet, IPDPS, WONS, WiOpt, QoFIS, ICT, IST M&CS, PWC, ICC, ICICTE, AICCSA, AINA, GCWC)

### Research Interests

Medium access control in ad hoc networks, performance issues in wireless networks, information dissemination, service discovery, facility location, energy consumption and recharging in wireless sensor networks, network cost reduction in cloud computing environments, routing in wireless sensor networks, MAC for vehicular networks, synchronization issues in distributed systems

## MAIN RESEARCH COLLABORATIONS

### KAUST / University of Quebec (INRS, Montreal)

2011 - today

#### Prof. Sonia Aïssa

Collaboration in the area of energy consumption in wireless sensor networks and reachring, in the area of information dissemination employing tools from the algebraic graph theory and the area of cloud/fog networking attempting to move a service facility in the best nodes in terms of minimizing networking cost in a cloud/fog network

### University of Glasgow

2011 - 2014

#### Prof. Dimitrios Pezaros

Collaboration in the area of virtual machine placement within a data center to minimize the networking cost

### Boston University

2007 - 2014

#### Prof. Azer Bestavros, Prof. George Smaragdakis

Collaboration in the area of facility location attempting to derive the optimal or near-to-optimal location for a facility based on local information

## PUBLICATIONS (102)

### Referred Publications (94)

Various Publications (8)

Cross-references, indexes

30 refereed journal and 64 refereed conference papers

Number of non-refereed publications (invited, book editions, abstracts, etc.)

There are 740 references of all published work, h-index: 14, i10-index: 20, g-index: 24, hI(norm): 8 (Google Scholar)

## AWARD

### 38th Annual Hawaii International Conference on System Sciences

#### Best Paper Award, January, 2005

“Power Efficiency Analysis for Topology-Unaware TDMA MAC Policies in Ad-Hoc Networks,” Proceedings of the 38th Annual Hawaii International Conference on System Sciences, 2005.

## List of Refereed Publications (94)

### Refereed Journal Papers

- [1] Vasileios Dragonas, Georgios Tsoumanis, George Koufoudakis, Asterios Papamichail, Konstantinos Oikonomou, and Ioannis Stavrakakis, "A fairness-aware topology independent tdma mac policy in time constrained wireless ad hoc networks," *Computer Networks*, vol. 171, p. 107 157, 2020.
- [2] Apostolos Demertzis, Konstantinos Oikonomou, and Ioannis Stavrakakis, "Evaluation of a proposed minimum path impotence routing policy in wireless sensor networks," *Ad Hoc Networks*, vol. 94, p. 101 928, 2019.
- [3] Katerina Kabassi, Alessia Amelio, Vasileios Komianos, and Konstantinos Oikonomou, "Evaluating Museum Virtual Tours: The Case Study of Italy," *Information*, vol. 10, no. 11, 2019.
- [4] Konstantinos Skiadopoulos, Konstantinos Oikonomou, Markos Avlonitis, Konstantinos Giannakis, Dimitrios Kogias, and Ioannis Stavrakakis, "Multiple and replicated random walkers analysis for service discovery in fog computing IoT environments," *Ad Hoc Networks*, vol. 93, p. 101 893, 2019.
- [5] Konstantinos Skiadopoulos, Athanasios Tsipis, Konstantinos Giannakis, George Koufoudakis, Eleni Christopoulou, Konstantinos Oikonomou, George Kormentzas, and Ioannis Stavrakakis, "Synchronization of data measurements in wireless sensor networks for IoT applications," *Ad Hoc Networks*, vol. 89, pp. 47–57, 2019.
- [6] Apostolos Demertzis and Konstantinos Oikonomou, "Average Load Definition in Random Wireless Sensor Networks: The Traffic Load Case," *Technologies*, vol. 6, no. 4, 2018.
- [7] Vasileios Dragonas, Konstantinos Oikonomou, and Ioannis Stavrakakis, "A Disjoint Frame Topology-Independent TDMA MAC Policy for Safety Applications in Vehicular Networks," *Ad Hoc Networks*, vol. 79, pp. 43–52, 2018.
- [8] George Koufoudakis, Konstantinos Oikonomou, Konstantinos Giannakis, and Sonia Aïssa, "Probabilistic Flooding Coverage Analysis for Efficient Information Dissemination in Wireless Networks," *Computer Networks*, vol. 140, pp. 51–61, 2018.
- [9] George Koufoudakis, Konstantinos Oikonomou, and Georgios Tsoumanis, "Adapting Probabilistic Flooding in Energy Harvesting Wireless Sensor Networks," *Journal of Sensor and Actuator Networks*, vol. 7, no. 3, p. 39, 2018.
- [10] Spyros Polykalas, George Prezerakos, Kyriakos Vlachos, and Konstantinos Oikonomou, "Introduction to Robotics for Novice Users: A Case Study from Summer Schools in Greece," *European Journal of Engineering Research and Science*, no. CIE, pp. 25–29, 2018.
- [11] Georgios Tsoumanis, Konstantinos Oikonomou, Sonia Aïssa, and Ioannis Stavrakakis, "A Recharging Distance Analysis for Wireless Sensor Networks," *Ad Hoc Networks*, vol. 75-76, pp. 80–86, 2018.
- [12] Georgios Tsoumanis, Konstantinos Oikonomou, Georgios Koufoudakis, and Sonia Aïssa, "Energy-Efficient Sink Placement in Wireless Sensor Networks," *Computer Networks*, vol. 141, pp. 166–178, 2018.
- [13] Evangelos Koutsoumpidis, Vasileios Komianos, and Konstantinos Oikonomou, "Evaluation of Virtual Agents' Effectiveness in History Class," *The European Journal of Education and Applied Psychology*, no. 4, pp. 14–29, 2017.
- [14] Konstantinos Skiadopoulos, Konstantinos Giannakis, and Konstantinos Oikonomou, "Random Walker Coverage Analysis for Information Dissemination in Wireless Sensor Networks," *Technologies*, vol. 5, no. 2, p. 33, 2017.
- [15] Apostolos Demertzis and Konstantinos Oikonomou, "Braided Routing Technique to Balance Traffic Load in Wireless Sensor Networks," *International Journal of Monitoring and Surveillance Technologies Research (IJMSTR)*, vol. 4, no. 4, pp. 1–19, 2016.
- [16] Vasileios Komianos, Georgios Tsoumanis, Eleni Kavvadia, and Konstantinos Oikonomou, "A Framework for Cultural Heritage Content Organisation, Dissemination and Communication in Large-Scale Virtual Environments," *International Journal of Computational Intelligence Studies*, vol. 5, no. 1, pp. 71–93, 2016.
- [17] Eleni Kavvadia, Spyros Sagiadinos, Konstantinos Oikonomou, Giorgos Tsioutsoulouklis, and Sonia Aïssa, "Elastic Virtual Machine Placement in Cloud Computing Network Environments," *Computer Networks*, vol. 93, no. Part 3, pp. 435–447, 2015, Cloud Networking and Communications II.
- [18] Vasileios Komianos, Eleni Kavvadia, and Konstantinos Oikonomou, "Cultural Heritage Recommendations and User Navigation in Large Scale Virtual Environments," *International Journal of Computational Intelligence Studies*, vol. 4, no. 2, pp. 151–172, 2015.

- [19] Georgios Tsoumanis, Eleni Kavvadia, and Konstantinos Oikonomou, “A v(irtual)-City Implementation for Promoting Cultural Heritage,” *International Journal of Computational Intelligence Studies*, vol. 4, no. 2, pp. 173–191, 2015.
- [20] Georgios Smaragdakis, Nikolaos Laoutaris, Konstantinos Oikonomou, Ioannis Stavrakakis, and Azer Bestavros, “Distributed Server Migration for Scalable Internet Service Deployment,” *IEEE/ACM Transactions on Networking*, vol. 22, no. 3, pp. 917–930, Jun. 2014.
- [21] Konstantinos Oikonomou, Dimitrios Kogias, and Ioannis Stavrakakis, “Probabilistic Flooding for Efficient Information Dissemination in Random Graph Topologies,” *Computer Networks*, vol. 54, no. 10, pp. 1615–1629, 2010.
- [22] Konstantinos Oikonomou and Ioannis Stavrakakis, “Scalable Service Migration in Autonomic Network Environments,” *IEEE Journal on Selected Areas in Communications*, vol. 28, no. 1, pp. 84–94, Jan. 2010.
- [23] Leonidas Tzevelekas, Konstantinos Oikonomou, and Ioannis Stavrakakis, “Random Walk With Jumps in Large-Scale Random Geometric Graphs,” *Computer Communications*, vol. 33, no. 13, pp. 1505–1514, 2010.
- [24] Konstantinos Oikonomou and Ioannis Stavrakakis, “An Adaptive Time-spread Multiple-access Policy for Wireless Sensor Networks,” *EURASIP J. Wirel. Commun. Netw.*, vol. 2007, no. 1, pp. 24–24, Jan. 2007.
- [25] —, “Energy Considerations for Topology-Unaware TDMA MAC Protocols,” *Ad Hoc Networks*, vol. 4, no. 3, pp. 359–379, 2006.
- [26] Athanasios Vaios, Konstantinos Oikonomou, and Ioannis Stavrakakis, “Analysis of a Topology Control Paradigm in WLAN/WPAN Environments,” *Computer Communications*, vol. 29, no. 11, pp. 2096–2108, 2006.
- [27] Konstantinos Oikonomou, Nikos Pronios, and Ioannis Stavrakakis, “Performance Analysis of Topology-Unaware TDMA MAC Schemes for Ad Hoc Networks With Topology Control,” *Computer Communications*, vol. 28, no. 3, pp. 313–324, 2005.
- [28] Konstantinos Oikonomou and Ioannis Stavrakakis, “Analysis of Topology-Unaware TDMA MAC Policies for Ad-Hoc Networks Under Diverse Traffic Loads,” *SIGMOBILE Mob. Comput. Commun. Rev.*, vol. 9, no. 4, pp. 25–38, Oct. 2005.
- [29] Athanasios Vaios, Konstantinos Oikonomou, Nikolaos Zinelis, and Ioannis Stavrakakis, “Increasing Capacity in Dual-Band WLANs Through Ad-Hoc Networking,” *International Journal of Wireless and Mobile Computing (IJWMC), Special Issue on Wireless Ad Hoc Networking*, 2005.
- [30] Konstantinos Oikonomou and Ioannis Stavrakakis, “Analysis of a Probabilistic Topology-Unaware TDMA MAC Policy for Ad Hoc Networks,” *IEEE Journal on Selected Areas in Communications*, vol. 22, no. 7, pp. 1286–1300, Sep. 2004.

## Refereed Conference Papers

- [1] Alexandros Zachariadis, Konstantinos Oikonomou, and Georgios Tsoumanis, “Network Lifetime Extension Evaluation of Energy Harvesting and Clustering Approaches in WSNs,” in *2019 4th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM)*, (Piraeus, Greece), pp. 1–6.
- [2] Aikaterini Georgia Alvanou, Konstantinos Skiadopoulou, Konstantinos Giannakis, Konstantinos Oikonomou, and Georgios Tsoumanis, “Random Walkers Coverage Experimentation and Evaluation in Low-Cost Wireless Home Networks,” in *2019 10th International Conference on Information, Intelligence, Systems and Applications (IISA)*, (Patras, Greece), Jul. 2019, pp. 1–4.
- [3] Konstantinos Bezas, Vasileios Komianos, Konstantinos Oikonomou, George Koufoudakis, and Georgios Tsoumanis, “Structural Health Monitoring In Historical Buildings Using A Low Cost Wireless Sensor Network,” in *2019 4th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM)*, (Piraeus, Greece), Sep. 2019, pp. 1–4.
- [4] Vasileios Komianos and Konstantinos Oikonomou, “A Prototype System for Automatic Design of Virtual Exhibitions Integrating Cultural Assets From Public Repositories,” in *1st International Workshop on Visual Pattern Extraction and Recognition for Cultural Heritage Understanding (VIPERC 2019)*, (Pisa, Italy), Jan. 2019, pp. 107–118.

- [5] Asterios Papamichail, Aikaterini Georgia Alvanou, Alexandros Zervopoulos, Konstantinos Bezas, Spiridon Vergis, George Koufoudakis, Konstantinos Oikonomou, and Georgios Tsoumanis, "Description of the Ionian University's Campus Wireless Network Testbed Infrastructure," in *2019 4th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM)*, (Piraeus, Greece), Sep. 2019, pp. 1–4.
- [6] Asterios Papamichail, Vasileios Dragonas, George Koufoudakis, Konstantinos Oikonomou, Georgios Tsoumanis, and Ioannis Stavrakakis, "Low-cost Device Implementation of a Topology Independent MAC (TiMAC) Policy," in *Third International Balkan Conference on Communications and Networking 2019 (BalkanCom'19)*, Skopje, North Macedonia, Jun. 2019.
- [7] Konstantinos Skiadopoulos, Konstantinos Giannakis, Konstantinos Oikonomou, Ioannis Stavrakakis, and Sofia Fanarioti, "A Distributed Method to Organize Terrestrial Nodes to Facilitate Short Drone Routes in WSNs," in *Third International Balkan Conference on Communications and Networking 2019 (BalkanCom'19)*, Skopje, North Macedonia, Jun. 2019.
- [8] Athanasios Tsipis, Vasileios Komianos, and Konstantinos Oikonomou, "Cloud Gaming Architecture Leveraging Fog for Dynamic Load Balancing in Cluster-Based MMOs," in *2019 4th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM)*, (Piraeus, Greece), Sep. 2019, pp. 1–6.
- [9] Athanasios Tsipis, Konstantinos Oikonomou, Vasileios Komianos, and Ioannis Stavrakakis, "Performance Evaluation in Cloud-Edge Hybrid Gaming Systems," in *Third International Balkan Conference on Communications and Networking 2019 (BalkanCom'19)*, Skopje, North Macedonia, Jun. 2019.
- [10] Spiridon Vergis, Vasileios Komianos, Georgios Tsoumanis, Athanassios Spiggos, and Konstantinos Oikonomou, "Implementation of a Low-Cost Vehicle Traffic Monitoring System in the Town of Corfu," in *2019 4th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM)*, (Piraeus, Greece), Sep. 2019, pp. 1–6.
- [11] Alexandros Zervopoulos, Vasileios Komianos, Konstantinos Skiadopoulos, Georgios Tsoumanis, Athanassios Spiggos, Konstantinos Giannakis, and Konstantinos Oikonomou, "Constructing Minimal Maintenance Virtual Backbones over Low-Cost Wireless Networks," in *2019 4th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM)*, (Piraeus, Greece), Sep. 2019, pp. 1–6.
- [12] Alexandros Zervopoulos, Konstantinos Skiadopoulos, Konstantinos Giannakis, Konstantinos Oikonomou, Vasileios Komianos, and Georgios Tsoumanis, "Constructing Virtual Backbones over Low-Cost Wireless Networks for Smart Tourism Services," in *2019 10th International Conference on Information, Intelligence, Systems and Applications (IISA)*, (Patras, Greece), Jul. 2019, pp. 1–8.
- [13] Apostolos Demertzis and Konstantinos Oikonomou, "Analysis of Concise "Average Load" Definitions in Uniformly Random Deployed Wireless Sensor Networks," in *Proceedings of the 11th Pervasive Technologies Related to Assistive Environments Conference*, ser. PETRA '18, Corfu, Greece: ACM, 2018, pp. 17–22.
- [14] Apostolos Demertzis, Konstantinos Oikonomou, and Ioannis Stavrakakis, "An Adjustable Forwarding Policy Exploiting Path Vulnerability in Wireless Sensor Networks," in *Second International Balkan Conference on Communications and Networking 2018 (BalkanCom'18)*, Podgorica, Montenegro, Jun. 2018.
- [15] Sofia Fanarioti, Athanasios Tsipis, Konstantinos Giannakis, George Koufoudakis, Eleni Christopoulou, Konstantinos Oikonomou, and Ioannis Stavrakakis, "A Proposed Algorithm for Data Measurements Synchronization in Wireless Sensor Networks," in *Second International Balkan Conference on Communications and Networking 2018 (BalkanCom'18)*, Podgorica, Montenegro, Jun. 2018.
- [16] Vasileios Komianos, Anastasios Latos, and Konstantinos Oikonomou, "Interaction and Information Communication in Virtual Museums," in *The First Future of Heritage Science and Technologies Conference, (Heri-Tech), IOP Conference Series: Materials Science and Engineering*, (Florence, Italy), vol. 364, May 2018, p. 012038.
- [17] Vasileios Komianos and Konstantinos Oikonomou, "Adaptive Exhibition Topologies for Personalized Virtual Museums," in *The First Future of Heritage Science and Technologies Conference, (Heri-Tech), IOP Conference Series: Materials Science and Engineering*, (Florence, Italy), vol. 364, May 2018, p. 012011.
- [18] George Koufoudakis, Konstantinos Oikonomou, Sonia Aissa, and Ioannis Stavrakakis, "Analysis of Spectral Properties for Efficient Coverage Under Probabilistic Flooding," in *2018 IEEE 19th International Symposium on A World of Wireless, Mobile and Multimedia Networks (WoWMoM) (IEEE WoWMoM 2018)*, Chania, Crete, Greece, Jun. 2018.

- [19] Konstantinos Skiadopoulos, Konstantinos Giannakis, Konstantinos Oikonomou, and Ioannis Stavrakakis, "Analysis of Multiple Random Walkers for Service Discovery in Fog Computing Network Environments," in *Second International Balkan Conference on Communications and Networking 2018 (BalkanCom'18)*, Podgorica, Montenegro, Jun. 2018.
- [20] Konstantinos Skiadopoulos, Konstantinos Giannakis, Konstantinos Oikonomou, Ioannis Stavrakakis, and Sonia Aïssa, "Distributed Construction of D-Hop Connected Dominating Sets for Wireless Sensor Networks," in *2018 IEEE Global Communications Conference (GLOBECOM)*, Dec. 2018, pp. 1–7.
- [21] Georgios Tsoumanis, Konstantinos Oikonomou, Sonia Aïssa, and Ioannis Stavrakakis, "Performance Evaluation of a Proposed On-Demand Recharging Policy in Wireless Sensor Networks," in *2018 IEEE 19th International Symposium on "A World of Wireless, Mobile and Multimedia Networks" (WoWMoM) (IEEE WoWMoM 2018)*, Chania, Crete, Greece, Jun. 2018.
- [22] Vasileios Dragonas, Konstantinos Oikonomou, and Ioannis Stavrakakis, "A Topology-Independent TDMA MAC Policy for Safety Applications in Vehicular Networks," in *BalkanCom 2017, First International Balkan Conference on Communications and Networking, Tirana, Albania*, (Tirana, Albania), Jun. 2017.
- [23] Georgios Tsoumanis, Konstantinos Oikonomou, Sonia Aïssa, and Ioannis Stavrakakis, "Recharging vehicle distance minimization in wireless sensor networks," in *BalkanCom 2017, First International Balkan Conference on Communications and Networking, Tirana, Albania*, (Tirana, Albania), Jun. 2017.
- [24] Apostolos Demertzis and Konstantinos Oikonomou, "A Braided Routing Mechanism to Reduce Traffic Load's Local Variance in Wireless Sensor Networks," in *2015 6th International Conference on Information, Intelligence, Systems and Applications (IISA)*, (Corfu, Greece), Jul. 2015, pp. 1–6.
- [25] Vasileios Komianos and Konstantinos Oikonomou, "Constrained Interest-Based Tour Recommendations in Large Scale Cultural Heritage Virtual Environments," in *2015 6th International Conference on Information, Intelligence, Systems and Applications (IISA)*, (Corfu, Greece), Jul. 2015, pp. 1–6.
- [26] Apostolos Demertzis and Konstantinos Oikonomou, "Avoiding Energy Holes in Wireless Sensor Networks with Non-Uniform Energy Distribution," in *IISA 2014, The 5th International Conference on Information, Intelligence, Systems and Applications*, (Chania, Greece), Jul. 2014, pp. 138–143.
- [27] Eleni Kavvadia, George Koufoudakis, and Konstantinos Oikonomou, "Robust Probabilistic Information Dissemination in Energy Harvesting Wireless Sensor Networks," in *2014 13th Annual Mediterranean Ad Hoc Networking Workshop (MED-HOC-NET)*, (Piran, Slovenia), Jun. 2014, pp. 63–70.
- [28] Vasileios Komianos, Eleni Kavvadia, and Konstantinos Oikonomou, "Efficient and Realistic Cultural Heritage Representation in Large Scale Virtual Environments," in *IISA 2014, The 5th International Conference on Information, Intelligence, Systems and Applications*, (Chania, Greece), Jul. 2014, pp. 1–6.
- [29] Fung Po Tso, Konstantinos Oikonomou, Eleni Kavvadia, and Dimitrios Pezaros, "Scalable Traffic-Aware Virtual Machine Management for Cloud Data Centers," in *2014 IEEE 34th International Conference on Distributed Computing Systems (ICDCS)*, (Tamilaldu, India), Jun. 2014, pp. 238–247.
- [30] Georgios Tsoumanis, Eleni Kavvadia, and Konstantinos Oikonomou, "Changing the Look of a City: The v-Corfu Case," in *IISA 2014, The 5th International Conference on Information, Intelligence, Systems and Applications*, (Chania, Greece), Jul. 2014, pp. 419–424.
- [31] Fung Po Tso, Gregg Hamilton, Konstantinos Oikonomou, and Dimitrios Pezaros, "Implementing Scalable, Network-Aware Virtual Machine Migration for Cloud Data Centers," in *2013 IEEE Sixth International Conference on Cloud Computing*, (Santa Clara, USA), Jun. 2013, pp. 557–564.
- [32] Konstantinos Oikonomou and Sonia Aïssa, "Dynamic Sink Assignment for Efficient Energy Consumption in Wireless Sensor Networks," in *2012 IEEE Wireless Communications and Networking Conference (WCNC)*, (Paris, France), Apr. 2012, pp. 1876–1881.
- [33] Konstantinos Oikonomou, George Koufoudakis, and Sonia Aïssa, "Probabilistic Flooding Coverage Analysis in Large Scale Wireless Networks," in *2012 19th International Conference on Telecommunications (ICT)*, (Jounieh, Lebanon), Apr. 2012, pp. 1–6.
- [34] Konstantinos Oikonomou, Giorgos Tsioutsoulis, and Sonia Aïssa, "Scalable Facility Placement for Communication Cost Reduction in Wireless Networks," in *2012 IEEE International Conference on Communications (ICC)*, (Ottawa, Canada), Jun. 2012, pp. 5118–5123.
- [35] Konstantinos Oikonomou, Afroditi Loukidou, and Spyros Sioutas, "A Study of a Time-Graph Friendship Model," in *2011 IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks*, (Lucca, Italy), Jun. 2011, pp. 1–6.

- [36] Dimitrios Tsoilis, Spyros Sioutas, Alexandros Panaretos, Ioannis Karydis, and Konstantinos Oikonomou, “Decentralized Digital Content Exchange and Copyright Protection via P2P Networks,” in *2011 IEEE Symposium on Computers and Communications (ISCC)*, (Corfu, Greece), Jun. 2011, pp. 1056–1061.
- [37] Emmanouil Magkos, Panayiotis Kotzanikolaou, Spyros Sioutas, and Konstantinos Oikonomou, “A Distributed Privacy-Preserving Scheme for Location-Based Queries,” in *2010 IEEE International Symposium on A World of Wireless, Mobile and Multimedia Networks (WoWMoM)*, (Montreal, Canada), Jun. 2010, pp. 1–6.
- [38] Konstantinos Oikonomou, Dimitrios Kogias, and Ioannis Stavrakakis, “A Study of Information Dissemination Under Multiple Random Walkers and Replication Mechanisms,” in *Proceedings of the Second International Workshop on Mobile Opportunistic Networking*, (Pisa, Italy), ser. MobiOpp ’10, New York, NY, USA: ACM, 2010, pp. 118–125.
- [39] Dimitris Kogias, Konstantinos Oikonomou, and Ioannis Stavrakakis, “Study of Randomly Replicated Random Walks for Information Dissemination Over Various Network Topologies,” in *2009 Sixth International Conference on Wireless On-Demand Network Systems and Services*, (Snowbird, Utah, USA), Feb. 2009, pp. 53–60.
- [40] Konstantinos Oikonomou, Dimitrios Kogias, Leonidas Tzevelekas, and Ioannis Stavrakakis, “Investigation of Information Dissemination Design Criteria in Large-Scale Network Environments,” in *2009 13th Panhellenic Conference on Informatics*, (Corfu, Greece), Sep. 2009, pp. 163–167.
- [41] Konstantinos Oikonomou, Spyros Sioutas, and Ioannis Stavrakakis, “Scalable Communication Cost Reduction: The Chord Case,” in *2009 8th IFIP Annual Mediterranean Ad Hoc Networking Workshop*, (Haifa, Israel), Jun. 2009, pp. 42–47.
- [42] Spyros Sioutas, Konstantinos Oikonomou, George Papaloukopoulos, M Xenos, and Yannis Manolopoulos, “Building an Efficient P2P Overlay for Energy-level Queries in Sensor Networks,” in *Proceedings of the International Conference on Management of Emergent Digital EcoSystems*, (Lyon, France), ser. MEDES ’09, ACM, 2009, 54:361–54:368.
- [43] Dimitris Kogias, Konstantinos Oikonomou, and Ioannis Stavrakakis, “Replicated Random Walks for Service Advertising in Unstructured Environments,” in *Advances in Ad Hoc Networking, Ad Hoc Networking Workshop (MED-HOC-NET), 2008 7th Annual Mediterranean*, (Palma de Mallorca, Spain), Springer, Jun. 2008, pp. 25–36.
- [44] Konstantinos Oikonomou, Ioannis Stavrakakis, and Alexios Xydias, “Scalable Service Migration in General Topologies,” in *2008 International Symposium on a World of Wireless, Mobile and Multimedia Networks*, (Newport Beach, California), Jun. 2008, pp. 1–6.
- [45] Adamantia Pateli, Andreas Floros, Konstantinos Oikonomou, and Emmanouil Magkos, “Corfunet: A Mesh Network Providing Wireless Services at Metropolitan Level,” in *Proceedings of the IADIS International Conference on Wireless Applications and Computing 2008*, (Amsterdam, The Netherlands), Jul. 2008, pp. 22–24.
- [46] Markos Avlonitis, Panagiotis Vlamos, and Konstantinos Oikonomou, “A space-time analytical model for energy consumption in wireless sensor networks,” in *The Sixth Annual Mediterranean Ad Hoc Networking Workshop (Med-Hoc-Net 2007)*, Corfu, Greece, 2007.
- [47] Nikolaos Laoutaris, Georgios Smaragdakis, Konstantinos Oikonomou, Ioannis Stavrakakis, and Azer Bestavros, “Distributed Placement of Service Facilities in Large-Scale Networks,” in *IEEE INFOCOM 2007 - 26th IEEE International Conference on Computer Communications*, (Barcelona, Spain), May 2007, pp. 2144–2152.
- [48] Konstantinos Oikonomou and Ioannis Stavrakakis, “Performance Analysis of Probabilistic Flooding Using Random Graphs,” in *2007 IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks*, (Helsinki, Finland), Jun. 2007, pp. 1–6.
- [49] —, “Scalable Service Migration: The Tree Topology Case,” in *5th Annual Mediterranean Ad Hoc Networking Workshop*, (Lipari, Italy), 2006.
- [50] —, “Power Efficiency Analysis for Topology-Unaware TDMA MAC Policies in Ad-Hoc Networks,” in *Proceedings of the 38th Annual Hawaii International Conference on System Sciences*, (Big Island, Hawaii), Jan. 2005, 287b–287b.
- [51] —, “Throughput Analysis of an Aloha-Based MAC Policy for Ad Hoc Networks,” in *Challenges in Ad Hoc Networking: Fourth Annual Mediterranean Ad Hoc Networking Workshop, June 21–24, 2005*, (Île de Porquerolles, France), Springer, Jun. 2005, pp. 219–223.

- [52] Konstantinos Oikonomou, Konstantinos Ntagkounakis, Athanasios Vaios, Nikolaos Zinelis, and Ioannis Stavrakakis, “Layered Architecture and Modules of CANA Supporting Dual Mode HiperLAN/2,” in *International Workshop on Wireless Ad-Hoc Networks, 2004.*, (Oulu, Finland), May 2004, pp. 172–176.
- [53] Konstantinos Oikonomou and Nikos Pronios, “Transient Behavior of an Ad-Hoc Network Architecture Supporting an Enhanced Dual Mode HiperLAN/2 System,” in *International Workshop on Wireless Ad-Hoc Networks, 2004.*, (Oulu, Finland), May 2004, pp. 11–15.
- [54] Konstantinos Oikonomou, Nikos Pronios, and Ioannis Stavrakakis, “Performance Analysis of TDMA MAC Schemes for Ad-Hoc Networks With Topology Control,” in *The Third Annual Mediterranean Ad Hoc Networking Workshop (Med-Hoc-Net 2004)*, (Bodrum, Turkey), Jun. 2004.
- [55] Konstantinos Oikonomou and Ioannis Stavrakakis, “Load Analysis of Topology-Unaware TDMA MAC Policies for Ad Hoc Networks,” in *Quality of Service in the Emerging Networking Panorama*, (Barcelona, Spain), Springer, Sep. 2004, pp. 84–93.
- [56] Athanasios Vaios, Konstantinos Oikonomou, Nikolaos Zinelis, Konstantinos Ntagkounakis, and Ioannis Stavrakakis, “On Supporting Dual-Mode HiperLAN/2: Architecture and Overhead,” in *13th IST Mobile & Wireless Communications Summit*, (Lyon, France), Jun. 2004, pp. 27–30.
- [57] Athanasios Vaios, K Oikonomou, Pietro Pellati, Sebastien Simoens, and Ioannis Stavrakakis, “A Dual-Band HiperLAN/2-Based Architecture for Indoor Hotspot Applications,” in *International Workshop on Wireless Ad-Hoc Networks, 2004.*, (Oulu, Finland), May 2004, pp. 6–10.
- [58] Konstantinos Oikonomou and Nikos B Pronios, “Ad-Hoc Networking: A Unified Evaluation Framework,” in *IST Mobile & Communications Summit*, (Aveiro, Portugal), Jun. 2003.
- [59] Konstantinos Oikonomou and Ioannis Stavrakakis, “A Probabilistic Topology Unaware TDMA Medium Access Control Policy for Ad Hoc Environments,” in *Personal Wireless Communications*, (Venice, Italy), Springer, Sep. 2003, pp. 291–305.
- [60] —, “Throughput Analysis of a Probabilistic Topology-Unaware TDMA MAC Policy for Ad-Hoc Networks,” in *Quality for All*, (Stockholm, Sweden), Springer, Oct. 2003, pp. 172–181.
- [61] Konstantinos Oikonomou, Athanasios Vaios, Sebastien Simoens, Pietro Pellati, and Ioannis Stavrakakis, “A Centralized Ad-Hoc Network Architecture (CANA) Based on Enhanced HiperLAN/2,” in *14th IEEE Proceedings on Personal, Indoor and Mobile Radio Communications, 2003. PIMRC 2003.*, (Beijing, China), vol. 2, Sep. 2003, pp. 1336–1340.
- [62] Athanasios Vaios, Konstantinos Oikonomou, and Ioannis Stavrakakis, “A Centralized Routing Scheme Supporting Ad Hoc Networking in Dual Mode HiperLAN/2,” in *IST Mobile & Communications Summit*, (Aveiro, Portugal), Jun. 2003, pp. 15–18.
- [63] Konstantinos Oikonomou, Carmen Mas, and Ioannis Tenidis, “On QoS Management of H/2 Bearer Service for 3G Telecommunication Systems,” in *3G Technologies and Applications, EURESCOM Summit*, (Heidelberg, Germany), Nov. 2001, pp. 12–15.
- [64] Konstantinos Oikonomou, Ioannis Tenidis, and Ioannis Stavrakakis, “A Mechanism to Enable Differentiated Services QoS in HIPERLAN/2,” in *8th IEEE International Conference on Telecommunications, Bucharest, Romania*, (Bucharest, Romania), Jun. 2001.

## Various Publications (8)

### Journals

- [1] George Koufoudakis, Nikos Skiadopoulos, Emmanouel Magkos, and Konstantinos Oikonomou, “Synchronization Issues in an Innovative Wireless Sensor Network Architecture Monitoring Ambient Vibrations in Historical Buildings,” *Key Engineering Materials*, vol. 628, 2014.
- [2] Konstantinos Oikonomou, George Koufoudakis, Eleni Kavvadia, and Vassilis Chrissikopoulos, “A Wireless Sensor Network Innovative Architecture for Ambient Vibrations Structural Monitoring,” *Key Engineering Materials*, vol. 628, 2014.



## Conferences

- [1] Georgios Tsoumanis, George Koufoudakis, Konstantinos Oikonomou, Markos Avlonits, and Nikos Varotsis, “A Low-Cost Surface Wireless Sensor Network for Pollution Monitoring in the Ionian Sea,” in *12th Panhellenic Symposium of Oceanography & Fisheries*, (Corfu, Greece), Abstract, May 2018.
- [2] Konstantinos Skiadopoulou and Konstantinos Oikonomou, “Probabilistic Information Dissemination Aspects in Wireless Sensor Networks Located in Historical Buildings,” in *2014 S.M.ART.BUIL.T International Conference*, (Bari, Italy), Mar. 2014.

## Editions

- [1] Maria Virvou, Fumihiko Kumeno, and Konstantinos Oikonomou, *Knowledge-Based Software Engineering: 2018 - 2019*. Springer, 2018.
- [2] Timos Sellis and Konstantinos Oikonomou, *Algorithmic Aspects of Cloud Computing*. Springer, 2017.
- [3] Andrea Passarella and Konstantinos Oikonomou, *Special Section on Autonomic and Opportunistic Communications*. Elsevier, 2010.

## Book Chapters

- [1] Apostolos Demertzis and Konstantinos Oikonomou, “Braided Routing Technique to Balance Traffic Load in Wireless Sensor Networks,” in, ser. *Sensor Technology: Concepts, Methodologies, Tools, and Applications*. IGI Global, Mar. 2020, ch. 40, pp. 837–855.

## Various Lists

### Supervised Ph.D. Graduates

- [1] Apostolos Demertzis, “Energy-Aware Routing in Wireless Sensor Networks,” Ph.D. Thesis, Ionian University, Jun. 2019.
- [2] George Koufoudakis, “Information Dissemination in Structured and Unstructured Networks,” Ph.D. Thesis, Ionian University, Feb. 2019.
- [3] Konstantinos Skiadopoulou, “Information Dissemination and Dominating Sets on Wireless Sensor Networks,” Text in greek, Ph.D. Thesis, Ionian University, Dec. 2019.
- [4] Georgios Tsoumanis, “Energy Consumption Optimization in Wireless Sensor Networks,” Ph.D. Thesis, Ionian University, Sep. 2018.
- [5] Eleni Kavvadia, “Virtual Machine Placement for Supporting Network Cloud Services,” Text in greek, Ph.D. Thesis, Ionian University, Jun. 2017.
- [6] Vasileios Komianos, “Content Personalization Approaches in Cultural Heritage (Real, Virtual and Mixed) Environments,” Ph.D. Thesis, Ionian University, Nov. 2017.

### Supervised Ph.D. Candidates

- [1] Sofia Fanarioti, “Synchronization of Measurements in Wireless Sensor Networks,” Ph.D. Candidate, Ionian University, 2014.
- [2] Konstantina Maidatsi, “Exploiting the Internet of Things in STEM Education: Interconnected Devices and Environmental Education,” Ph.D. Candidate, Ionian University, 2020.
- [3] Athanassios Tsipis, “Network Resource Optimization in Cloud Computing Environments,” Ph.D. Candidate, Ionian University, 2017.
- [4] Vasileios Dragonas, “Medium Access Policies for Vehicular Networks,” Ph.D. Candidate, Ionian University, 2017.

## Main R&D Projects

- [1] v-Corfu, *Espa 2014-2020*, Role: Co-ordinator on behalf of the Ionian University, 2019-2022.
- [2] TELEICCE, *Interreg greece-italy*, Role: Co-ordinator on behalf of the Ionian University, 2018-2020.
- [3] OLI-Net, *Espa 2014-2020*, Role: Co-ordinator on behalf of the Ionian University, 2017-2020.
- [4] Ionian Islands Virtual World, *Espa 2007-2013*, Role: Co-ordinator on behalf of the Ionian University, 2012-2015.
- [5] S.M.ART.BUIL.T., *Interreg greece-italy*, Role: Technical co-ordinator on behalf of the Ionian University, 2012-2015.
- [6] BROADWAY, (*6th framework*) *ist-2001-32686*, Role: Workpackage co-ordinator on behalf of Intracom S.A., 2002-2005.
- [7] Ionian University Digital Planning Services, *Espa 2007-2013*, Role: Co-ordinator on behalf of the Ionian University, 2010-2015.
- [8] Autonomic Network Architecture (ANA), (*fet*) *ist-27489*, Role: Post-doc researcher on behalf of the National & Kapodistrian University of Athens, 2005-2010.
- [9] HARMONICS, (*5th framework*) *ist-1999-11719*, Role: Workpackage co-ordinator on behalf of Intracom S.A., 2000-2003.

## Conference Chairing

- [1] BalkanCom 2020, *4th International Balkan Conference on Communications and Networking, Podgorica, Montenegro, 6-8 June 2018*, <http://www.balkancom.info/2020/>, Role: TPC co-Chair, Jun. 2020.
- [2] BalkanCom 2018, *2nd International Balkan Conference on Communications and Networking, Podgorica, Montenegro, 6-8 June 2018*, <http://www.balkancom.info/2018/>, Role: Publicity co-Chair, Jun. 2018.
- [3] JCKBSE 2018, *12th Joint Conference on Knowledge-Based Software Engineering, Corfu, Greece, 27-30 August 2018*, <http://jckbse2018.unipi.gr>, Role: Program co-Chair, Aug. 2018.
- [4] Algocloud 2016, *2nd International Workshop on Algorithmic Aspects of Cloud Computing, Aarhus, Denmark, 22 August 2016*, <http://conferences.au.dk/algo16/algocloud>, Role: Workshop Program co-Chair, Aug. 2016.
- [5] IISA 2015, *6th Int. Conference on Information, Intelligence, Systems and Applications, Corfu, Greece, 6-8 July 2015*, <http://iisa2015.unipi.gr>, Role: Special Session CNEA co-Chair, Jul. 2015.
- [6] ISCC 2011, *IEEE Symposium on Computers and Communications, Corfu, Greece, 28 June - 1 July 2011*, <http://www.ieee-iscc.org/2011>, Role: Local Arrangements co-Chair, Jun. 2011.
- [7] AOC 2010, *IEEE WoWMoM Workshop on Autonomic and Opportunistic Communications, Montreal, Canada, 14 June 2010*, <http://cnd.iit.cnr.it/aoc2010/index.html>, Role: Workshop co-Chair, Jun. 2010.
- [8] AOC 2009, *IEEE WoWMoM Workshop on Autonomic and Opportunistic Communications, Kos, Greece, 15 June 2009*, <http://cnd.iit.cnr.it/aoc2009/index.html>, Role: Workshop co-Chair, Jun. 2009.
- [9] MedHocNet 2007, *Mediterranean Ad Hoc Networking Workshop, Corfu, Greece, 12-15 June 2007*, <http://di.ionio.gr/medhocnet07/>, Role: Local Arrangements co-Chair, Jun. 2007.

## Invited Talks

- [1] *Facility Location in Modern Networking Environments: Theory and Applications*, 8 March 2018, Sabanci University, Istanbul, Invited talk hosted by Prof. Ozgur Gurbuz, Mar. 2018.
- [2] *Virtual Worlds, Cultural Content and Infrastructures*, 1-2 July 2016, Syros, Greece, Invited talk hosted by the General Secretariat of Digital Strategy, Jul. 2016.
- [3] *The S.M.ART.BUIL.T. Wireless Network: Going Through a Novel Architecture*, 1-2 July 2013, Corfu, Greece, Invited talk hosted by the 2nd International Workshop on Structural Monitoring, Jul. 2013.
- [4] *Advanced Structural Monitoring through Wireless Sensor Technologies*, 30 November 2012, Bari, Italy, Invited talk hosted by the International Workshop on Structural Monitoring, Nov. 2012.

- [5] *Green Ethos in ICT*, 17 May 2010, Athens, Greece, Invited talk hosted by the General Secretaries of Green ICT, May 2010.
- [6] *Green ICT*, 14 December 2008, Athens, Greece, Invited talk hosted by the Technical Chamber of Greece, Dec. 2008.

## Summer Schools

- [1] *Ionian Islands Virtual World: Monuments and Locations*, 1-31 August 2018, Corfu, Greece, Invited talk in the Greek Language and Culture Summer School organized by the Department of History, Ionian University, Aug. 2018.
- [2] *Ionian Islands Virtual World: Monuments and Locations*, 7-22 August 2017, Corfu, Greece, Invited talk in the Greek Language and Culture Summer School organized by the Department of History, Ionian University, Aug. 2017.
- [3] *Principles of Informatics - Applications in Robotics*, 19-23 June 2017, Corfu, Greece, Organizer of Summer School Principles of Informatics - Applications in Robotics organized by the Department of Informatics, Ionian University, Jun. 2017.
- [4] *Virtual Worlds and Promotion of Cultural Heritage*, 6-12 July 2017, Corfu, Greece, Invited talk in the Summer School Digital Technologies & Innovation in Tourism Entrepreneurship organized by the Department of Informatics, Ionian University, Jul. 2017.

## Committees

- [1] *Ionian University Museum*, Member of the Board, 2019 - today.
- [2] *Governing Body for the Strategy for the City of Corfu*, Member, 2018 - today.
- [3] *Monitoring Committee of the Regional Programme for the Ionian Islands 2014-2020*, Member, 2015 - today.
- [4] *ANION S.A. (Regional Development Company)*, Member of ANION's Board, 2017.
- [5] *Network for Smart Innovation of the Ionian Islands*, Member of the network, 2013-2015.
- [6] *Working Group for Green ICT by the Ministry of Infrastructure, Transportation and Networks*, Member of the working group (published FEK 245/15-7-2010), 2010-2012.
- [7] *Hellenic Association of Computer Engineers*, Member of the board, 2007-2008.