

## Personal Summary

Dr. L. Koumakis is an experienced informatics professional with expertise in bioinformatics, systems biology and data mining. Expert in design, development and adaptation of methodologies and tools for knowledge discovery from heterogeneous clinico-genomic data to strengthen and support individualized and stratified medicine protocols.

L. Koumakis is the IT Architect of the Greek Biobanks network (BBMR-GR) and the author of MinePath an interactive pathway analysis web server for real-time identification of differentially expressed sub-pathways in gene regulatory networks.

In the past he has worked in the design and implementation of service oriented architectures and he has experience in formal validation and evaluation procedures for software. He has participated in various international and national R&D projects and has published more than 50 papers in scientific journals, proceedings of international conferences & workshops, related to his fields of expertise.

## Education

### 2011–2014 **Doctorate of Philosophy (Ph.D.) in Systems biology**

*Technical University of Crete Greece*

**Dissertation:** Computational methods for knowledge discovery from heterogeneous data sources: methodology and implementation on biological and molecular sources.

**Advisors:** Vassilis Moustakis, George Potamias, Michael Zervakis.

### 2002–2004 **Master of Science (M.Sc.)**

*Computer Science Department, University of Crete, Greece*

**Thesis:** HealthObs: Health Observatory. Uniform Modelling and Intelligent Data Processing in Distributed and Heterogeneous Clinical Information Sources.

**Advisors:** Stelios Orfanoudakis, George Potamias

### 1996–2001 **Bachelor of Science (B.Sc.)**

*Computer Science Department, University of Crete, Greece*

**Thesis:** Automated Construction and Revision of Semantic Networks.

**Advisor:** George Potamias

## Awards

- The publication entitled Modeling susceptibility to periodontitis received the "**IADR/AADR William J. Gies Award**" for the **best clinical research paper** published in the Journal of Dental Research (JDR) during the preceding year. The JDR is the top ranked journal (Impact Factor: 4.144) for original scientific articles in dentistry.
- The publication: L. Koumakis, G. Potamias, K. Marias and M. Tsiknakis. "*An Algorithmic Approach for the Effect of Transcription Factor Binding Sites over Functional Gene Regulatory Networks*" received the **Best Student Paper Award** at the 15<sup>th</sup> IEEE International Conference on Bioinformatics & Bioengineering (BIBE).

## Scholarships

- **Ph.D. Scholarship (2011-2014): Heraclitus II**, Investing in knowledge society through the European Social Fund.
- **M.Sc. Student Research Fellowship (2002-2004)**, Foundation for Research and Technology – Hellas (FORTH) - Institute of Computer Science (ICS)
- **Erasmus Program Scholarship (2001)** at Universitat Politècnica de Catalunya (Spring 2001)
- **Undergraduate Student Research Fellowship (2000-2001)**, Foundation for Research and Technology – Hellas (FORTH) - Institute of Computer Science (ICS)

## Leadership Activities

- 2015 – present**      **IT Architect of the Greek Biobanks network (BBMR.gr)**  
BBMRI-GR will create a network of Greek Biobanks and connect them with the BBMRI-ERIC. The IT architect is responsible for the coordination and connection of all the Greek Centers of biobank collections and their linkage with existing collections in other European Centers, via the BBMRI-ERIC. Furthermore, L. Koumakis represents Greece in the BBMRI-ERIC Common Services IT.
- 2015 – present**      **Scientific coordinator on behalf of CBML**  
Scientific coordinator on behalf of CBML at the EU Horizon2020 project iManageCancer - Empowering patients and strengthening self-management in cancer diseases (H2020-PHC-26-2014 No. 643529) and leader of the Smart analytical data services work package. Total budget of the project 4.8 Million euros (CBML-FORTH budget 750.000).
- 2011 - 2015**      **Work Package leader**  
Work package leader on behalf of CBML at the FP7 EU project EURECA - Enabling information re-Use by linking clinical REsearch and Care (FP7-ICT-2011.7 No 288048). Total budget of the project 13 Million euros (CBML-FORTH budget 960.000).

## Employment

- 2015 – present**      **Collaborating researcher ICS-FORTH**  
Collaborating researcher at Computational BioMedicine Laboratory (CBML) of Institute of Computer Science (ICS) at Foundation for Research and Technology - Hellas (FORTH). Current activities:
- scientific coordinator on behalf of CBML at the EU Horizon2020 project iManageCancer
  - Leader of the Smart analytical data services work package in the iManageCancer project.
  - IT Architect of the Greek Biobanks network (BBMR.gr)
  - Member of the biology research IT team of the EUROPEAN NETWORK for CANCER research in CHILDREN and ADOLESCENTS (ENCCA FP7 No. 261474)

**October 2014 - Postdoctoral Researcher - University of Oxford**  
**December 2014**

- Postdoctoral researcher at the Computational Biology and Integrative Genomics Group of the Department of Oncology, University of Oxford under the supervision of Dr. Francesca Buffa.

**2011 - 2014 Senior Technical Staff ICS-FORTH**

Participated in EURECA, P-medicine and ENCCA EU FP7 projects:

- **EURECA:** Leader of the evaluation and validation work package. Worked and coordinated the verification, validation and evaluation activities of the EURECA components and the clinical scenarios.
- **ENCCA:** Member of the biological research IT team of the EUROPEAN NETWORK for CANCER research in CHILDREN and ADOLESCENTS (ENCCA project FP7-HEALTH-F2-2011 No. 261474). Worked on the definition of the minimum common dataset for biobanks and on the implementation of a knowledge discovery algorithm for gene regulatory network.
- **P-Medicine:** Implemented bioinformatics and systems biology algorithms for miRNA datasets and their combination with gene regulatory networks. Designed and implemented a natural language processing framework for semantic biomedical resource discovery.

**2010 - 2011 Technical Staff ICS-FORTH**

- Worked in **REACTION** (Remote Accessibility to Diabetes Management and Therapy in Operational Healthcare Networks, FP7-IP-No 248590) for the design and implementation of predictive models and risk assessment for diabetes. Developed new general algorithms for predictive modelling and participated in the design of the predictive model platform.

**October 2005 - Technical Staff ICS-FORTH**  
**December 2009**

Worked at ACGT, Gen2Phen, InfoBioMed and MIMP EU projects as technical staff/research assistant:

- **ACGT** (Advancing Clinico-Genomic Clinical Trials on Cancer: Open Grid Services for Improving Medical Knowledge Discovery, EU-FP6-IST-026996): Worked on the design and implementation of a web based scientific workflow editor for the orchestration of bioinformatics web services and scripts. Integration of clinical (from clinical trials) and genomic data and implementation of bioinformatics algorithms for (i) gene selection (ii) classification.
- **InfoBioMed** (Structuring European Biomedical Informatics to Support Individualized Healthcare EU-FP6-IST-507585): Design and implementation of the online (web based) biobank database. Implementation of text mining algorithms for plain text data.
- **Gen2Phen** (Genotype-to-Phenotype Databases: A Holistic Solution, EU-FP7-HEALTH-200754): Research and evaluation of web based scientific workflow platforms for distributed environments.

- **MIMP** (Development of curriculum for a Master's degree in Medical Informatics in Egypt, TEMPUS JEP-31053-2003): Professor's assistant for the Master's degree in Medical Informatics in Egypt.
- **WS-Talk** (Web Services Communicating in the Language of Their User Community, EU-FP6-COOP-CT-00602615): Worked on natural language processing algorithms and web services orchestration.

**September 2004 – Greek Air Force**  
**September 2005**

- (Mandatory) Military Service

**September 2001 – Graduate scholarship**  
**April 2004**

- Research assistant/R&D engineer. Designed and implemented a standalone (java-based) clinical decision support system targeting the seamless integration and intelligent processing of distributed and heterogeneous clinical and genomic data.

**September 2000 – Undergraduate scholarship**  
**August 2001**

- Worked on graph theory and semantic networks and implemented an automatic revision and construction system for semantic networks using supervised learning algorithms.

## Teaching Experience

- **1 semester (Fall 2001): Teaching assistant** at Computer Science Department, University of Crete for the course "Machine learning"
- **2 semesters (Spring 2002 & spring 2003) : Teaching assistant** at Computer Science Department, University of Crete for the course "Digital Design"
- **1 semester (Fall 2002): Teaching assistant** at Computer Science Department, University of Crete for the course "Logic"
- **8 semesters (Fall 2005, Spring 2006, Fall 2006, Spring 2007, Fall 2007, Spring 2008, Fall 2008, Spring 2009): Adjunct Laboratory Collaborator/Instructor** at Department of Sciences, Technological Education Institute of Crete for the course "Advanced programming" at Civil Engineering department
- **1 semester (Spring 2010): Adjunct Laboratory Collaborator/Instructor** at Department of Informatics Engineering, Technological Education Institute of Crete for the course "Object-oriented programming"

## Skills

- **Languages:** Greek - ILR level 5 (Native), English - ILR level 3 (Professional working proficiency), Spanish - ILR level 0 (Basic)
- **Programming languages:** Java, JavaScript, php, C++, C, C#, Basic, Pascal
- **Markup languages/Data Models:** XML, RDF, HTML, CSS
- **Other tools/platforms:** Unix, Weka, R-statistics, SPSS, Tomcat/servlets, web/rest services.

**References available upon request.**

# Publications

## Journal Articles

- 16 Kondylakis, Haridimos, Lefteris Koumakis, Manolis Tsiknakis, Kostas Marias and Stephan Kiefer. "Big Data in Support of the Digital Cancer Patient". ERCIM News, 104, 27-28, January 2016.
- 15 **Koumakis, L.**, K. Sigdel, G. Potamias, S. Sfakianakis, J. van Leeuwen, G. Zacharioudakis, V. Moustakis et al. "Bridging miRNAs and pathway analysis in clinical decision support: a case study in nephroblastoma." *Network Modeling Analysis in Health Informatics and Bioinformatics* 4, no. 1 (2015): 1-12.
- 14 Sfakianaki, Pepi, **Lefteris Koumakis**, Stelios Sfakianakis, Galatia Iatraki, Giorgos Zacharioudakis, Norbert Graf, Kostas Marias, and Manolis Tsiknakis. "Semantic biomedical resource discovery: a Natural Language Processing framework." *BMC medical informatics and decision making* 15, no. 1 (2015): 77.
- 13 Hochedlinger, Nina, Michael Nitzlnader, Markus Falgenhauer, Stefan Welte, Dieter Hayn, **Lefteris Koumakis**, George Potamias et al. "Standardized Data Sharing in a Paediatric Oncology Research Network—A Proof-of-Concept Study." *EHealth2015—Health Informatics Meets EHealth: Innovative Health Perspectives: Personalized Health* 212 (2015): 27.
- 12 Kondylakis, Haridimos, Eleni Kazantzaki, **Lefteris Koumakis**, Irini Genitsaridi, Kostas Marias, Alessandra Gorini, Ketti Mazzocco et al. "Development of interactive empowerment services in support of personalised medicine." *ecancermedicalscience* 8 (2014).
- 11 Genitsaridi, Irini, Haridimos Kondylakis, **Lefteris Koumakis**, Kostas Marias, and Manolis Tsiknakis. "Evaluation of personal health record systems through the lenses of EC research projects." *Computers in biology and medicine* (2013).
- 10 Laine, M. L., V. Moustakis, **L. Koumakis**, G. Potamias, and B. G. Loos. "Modeling susceptibility to periodontitis." *Journal of dental research* 92, no. 1 (2013): 45-50. doi:10.1177/0022034512465435.
- 9 Genitsaridi, Irini, Haridimos Kondylakis, **Lefteris Koumakis**, Kostas Marias, and Manolis Tsiknakis. "Towards Intelligent Personal Health Record Systems: Review, Criteria and Extensions." *Procedia Computer Science* 21 (2013): 327-334.
- 8 Lagani, Vincenzo, **Lefteris Koumakis**, Franco Chiarugi, Edin Lakasing, and Ioannis Tsamardinos. "A systematic review of predictive risk models for diabetes complications based on large scale clinical studies." *Journal of Diabetes and its Complications* 27, no. 4 (2013): 407-413.
- 7 **Koumakis, Lefteris**, Vassilis Moustakis, Michalis Zervakis, Dimitris Kafetzopoulos, and George Potamias. "Coupling regulatory networks and microarrays: revealing molecular regulations of breast cancer treatment responses." In *Artificial Intelligence: Theories and Applications*, pp. 239-246. Springer Berlin Heidelberg, 2012.
- 6 Kanterakis, A., G. Potamias, G. Zacharioudakis, **L. Koumakis**, S. Sfakianakis, and M. Tsiknakis. "Scientific discovery workflows in bioinformatics: a scenario for the coupling of molecular regulatory pathways and gene-expression profiles." *Studies in health technology and informatics* 160, no. Pt 2 (2009): 1304-1308.
- 5 Potamias, George, **Lefteris Koumakis**, Alexandros Kanterakis, Vassilis Moustakis, Dimitris Kafetzopoulos, and Manolis Tsiknakis. "Mining Interesting Clinico-Genomic Associations: The HealthObs Approach." In *Artificial Intelligence and Innovations 2007: from Theory to Applications*, pp. 137-145. Springer US, 2007.
- 4 **Koumakis, Lefteris**, Vassilis Moustakis, Alexandros Kanterakis, and George Potamias. "Mining time series with mine time." In *Advances in Artificial Intelligence*, pp. 158-168. Springer Berlin Heidelberg, 2006.
- 3 Potamias, George, **Lefteris Koumakis**, and Vassilis Moustakis. "Mining XML clinical data: the healthobs system." *Ingénierie des systèmes d'information* 10, no. 1 (2005): 59-79.
- 2 Potamias, George, **Lefteris Koumakis**, and Vassilis Moustakis. "Gene selection via discretized gene-expression profiles and greedy feature-elimination." In *Methods and Applications of Artificial Intelligence*, pp. 256-266. Springer Berlin Heidelberg, 2004.
- 1 Potamias, George, and **Lefteris Koumakis**. "HealthObs: An Integrated System for Mining Clinical XML-formatted DATA." In *International Conference on Information Communication Technologies in Health*.

2004.

## Publications in Proceedings (full-paper reviewed)

- 31 **Koumakis**, L.; Potamias, G.; Marias, K.; Tsiknakis, M., "An algorithmic approach for the effect of transcription factor binding sites over functional gene regulatory networks," in *Bioinformatics and Bioengineering (BIBE)*, 2015 IEEE 15th International Conference, pp.1-6, 2-4 Nov. 2015 doi:10.1109/BIBE.2015.7367662
- 30 Hochedlinger, Nina, Michael Nitzlner, Markus Falgenhauer, Stefan Welte, Dieter Hayn, Lefteris **Koumakis**, George Potamias et al. "Standardized Data Sharing in a Paediatric Oncology Research Network—A Proof-of-Concept Study." *EHealth2015—Health Informatics Meets EHealth: Innovative Health Perspectives: Personalized Health 212* (2015): 27.
- 29 Καζαντζάκη Ελένη, Χατζημηνά Μαρία, **Κουμάκης** Λευτέρης, Ρούσσοις Παναγιώτης, Ποταμιάς Γεώργιος, Μαρίας Κων/νος, Τσικνάκης Εμμανουήλ, Μπίτσιος Παναγιώτης. "Διαδικτυακή εφαρμογή για την συλλογή φαινοτύπων για πρόωμη διάγνωση ψυχικών διαταραχών" in 4th East European Psychiatric Congress & 3rd Preventive Psychiatry International Congress. Athens Greece 12-15 Nov. 2015
- 28 Kondylakis, H., **Koumakis**, L., Psaraki, M., Troullinou, G., Chatzimina, M., Kazantzaki, E., Marias, K., & Tsiknakis, M.N. (2015). Semantically-enabled Personal Medical Information Recommender. International Semantic Web Conference (ISWC), 2015, Bethlehem, Pennsylvania.
- 27 Kondylakis, H., L. **Koumakis**, E. Kazantzaki, M. Chatzimina, M. Psaraki, K. Marias, and M. Tsiknakis. "Patient Empowerment through Personal Medical Recommendations." *MEDINFO 216* (2015): 1117.
- 26 Kondylakis, Haridimos, Lefteris **Koumakis**, Stefan Rüping, Eleni Kazantzaki, Kostas Marias, and Manolis Tsiknakis. "PMIR: A Personal Medical Information Recommender". Medical Informatics Europe (MIE) 2014.
- 25 Sfakianaki, Pepi, Lefteris **Koumakis**, Stelios Sfakianakis, and Manolis Tsiknakis. "Natural Language Processing for Biomedical Tools Discovery: A Feasibility Study and Preliminary Results." In *Business Information Systems*, pp. 134-145. Springer International Publishing, 2014.
- 24 **Koumakis**, Lefteris and George Potamias. "MinePath: Blending Molecular Pathways & Gene Expression Profiles". *Metabolic and Protein Network analysis in Systems Biology (MET-GR III)*. September 18-20, 2014 Patras, Greece
- 23 **Koumakis**, L., G. Potamias, S. Sfakianakis, V. Moustakis, M. Zervakis, N. Graf, and M. Tsiknakis. "miRNA based pathway analysis tool in nephroblastoma as a proof of principle for other cancer domains." In *Bioinformatics and Bioengineering (BIBE)*, 2014 IEEE International Conference on, pp. 179-184. IEEE, 2014.
- 22 Kalantzaki, K., Lefteris **Koumakis**, Ekaterini S. Bei, M. Zervakis, George Potamias, and Dimitris Kafetzopoulos. "Experimental model construction and validation of the ErbB signaling pathway." In *Bioinformatics and Bioengineering (BIBE)*, 2013 IEEE 13th International Conference on, pp. 1-4. IEEE, 2013.
- 21 Kondylakis, Haridimos, Lefteris **Koumakis**, Eirini Genitsaridi, Manolis Tsiknakis, Kostas Marias, Gabriella Pravettoni, Alessandra Gorini, and Ketti Mazzocco. "IEmS: A collaborative environment for patient empowerment." In *Bioinformatics & Bioengineering (BIBE)*, 2012 IEEE 12th International Conference on, pp. 535-540. IEEE, 2012.
- 20 Padiaditis, Matthew, Manolis Tsiknakis, L. **Koumakis**, M. Karachaliou, S. Voutoufianakis, and P. Vorgia. "Vision-based absence seizure detection." In *Engineering in Medicine and Biology Society (EMBC)*, 2012 Annual International Conference of the IEEE, pp. 65-68. IEEE, 2012.



- 19 **Koumakis**, L., G. Potamias, M. Zervakis, and V. Moustakis. "Integrating microarray data and gene regulatory networks: Survey and critical considerations." In *Biomedical Engineering, 2011 10th International Workshop on*, pp. 1-4. IEEE, 2011.
- 18 **Koumakis**, Lefteris, Franco Chiarugi, Vincenzo Lagani, Angelina Kouroubali, and Ioannis Tsamardinos. "Risk assessment models for diabetes complications: A survey of available online tools." In *Wireless Mobile Communication and Healthcare*, pp. 46-53. Springer Berlin Heidelberg, 2012.
- 17 Moustakis, V., M. L. Laine, E. **Koumakis**, B. G. Loos, and G. Potamias. "Modeling and validating genotype knowledge: The case of periodontal disease." In *Biomedical Engineering Conference (CIBEC), 2010 5th Cairo International*, pp. 121-124. IEEE, 2010.
- 16 **Koumakis**, Lefteris, Alexandros Kanterakis, Giorgos Potamias, Stelios Sfakianakis, Giorgos Zacharioudakis, Manolis Tsiknakis. Analyzing Gene Regulatory Networks and Gene Expression Profiles via Scientific Workflows. *International Conference on Biomedical Data & Knowledge Mining: Towards Biomarker Discovery. 7-9 July 2010 Chania, Greece.*
- 15 Tsiknakis, M., S. Sfakianakis, G. Zacharioudakis, and L. **Koumakis**. "A framework supporting sharing and reuse of data and tools in translational cancer research: Lessons learned for VPH research." *This volume is dedicated to cancer patients*: 104.
- 14 1. Laine, M., Moustakis, V.A., **Koumakis**, L., Potamias, G.A., & Loos, B.G. (2010). Modeling susceptibility to periodontitis. International and American Association for Dental Research (IARD) 88th General Session 2010. Barcelona Spain July 14-17.
- 13 Potamias, George, Lefteris **Koumakis**, Alexandros Kanterakis, and Vassilis Moustakis. "Towards the discovery of reliable biomarkers from gene-expression profiles: an iterative constraint satisfaction learning approach." In *Artificial Intelligence: Theories, Models and Applications*, pp. 233-242. Springer Berlin Heidelberg, 2010.
- 12 Zacharioudakis, Giorgos, Lefteris **Koumakis**, Stelios Sfakianakis, and Manolis Tsiknakis. "A semantic infrastructure for the integration of bioinformatics services." In *Intelligent Systems Design and Applications, 2009. ISDA'09. Ninth International Conference on*, pp. 367-372. IEEE, 2009.
- 11 **Koumakis**, Lefteris, Vassilis Moustakis, Manolis Tsiknakis, Dimitris Kafetzopoulos, and George Potamias. "Supporting genotype-to-phenotype association studies with grid-enabled knowledge discovery workflows." In *Engineering in Medicine and Biology Society, 2009. EMBC 2009. Annual International Conference of the IEEE*, pp. 6958-6962. IEEE, 2009.
- 10 Tsiknakis, M., S. Sfakianakis, G. Zacharioudakis, L. K. Umakis, A. Kanterakis, G. Potamias, and D. Kafetzopoulos. "A semantically aware platform for the authoring and secure enactment of bioinformatics workflows." In *Engineering in Medicine and Biology Society, 2009. EMBC 2009. Annual International Conference of the IEEE*, pp. 5625-5628. IEEE, 2009.
- 9 **Koumakis**, Lefteris, Stelios Sfakianakis, Vassilis Moustakis, and George Potamias. "Discovery of Genotype-to-Phenotype Associations: A Grid-enabled Scientific Workflow Setting." *George Potamias Vassilis Moustakis (eds.)* (2009): 45.
- 8 Sfakianakis, Stelios, Norbert Graf, Alexander Hoppe, Stefan Rüping, Dennis Wegener, Lefteris **Koumakis**, and George Zacharioudakis. "Building a System for Advancing Clinico-Genomic Trials on Cancer." *George Potamias Vassilis Moustakis (eds.)* (2009): 33.
- 7 Sfakianakis, Stelios, Lefteris **Koumakis**, George Zacharioudakis, and Manolis Tsiknakis. "Web-based authoring and secure enactment of bioinformatics workflows." In *Grid and Pervasive Computing Conference, 2009. GPC'09. Workshops at the*, pp. 88-95. IEEE, 2009.
- 6 Christodoulou, E., Marina Ioannou, Maria Kafousi, Elias Sanidas, Georgios Papagiannakis, Vasiliki Danilatou, Georgia Tsiliki et al. "A new gene expression signature related to breast cancer Estrogen Receptor status." In *Bioinformatics and BioEngineering, 2008. BIBE 2008. 8th IEEE International Conference on*, pp. 1-7. IEEE, 2008.

- 5 Moustakis, Vassilis, George Potamias, M. Laine, B.G. Loos, and L. **Koumakis**. Linking Genetic Susceptibility with Clinical Findings: a case study in periodontitis. *40<sup>th</sup> European Human Genetics Conference (ESHG 2008), Barcelona, 31 May 2008 - 3 June 2008*.
- 4 Potamias, George, Lefteris **Koumakis**, Alexandros Kanterakis, Stelios Sfakianakis, Anastasia Analyti, Vassilis Moustakis, Dimitris Kafetzopoulos, Stefan Rueping, and Manolis Tsiknakis. "Knowledge Discovery Scientific Workflows in Clinico-Genomics." In *Tools with Artificial Intelligence, 2007. ICTAI 2007. 19th IEEE International Conference on*, vol. 1, pp. 91-95. IEEE, 2007.
- 3 Moustakis, V. S., M. L. Laine, L. **Koumakis**, G. Potamias, L. Zampetakis, and B. G. Loos. "Modelling genetic susceptibility: a case study in periodontitis." *Intelligent Data Analysis in bioMedicine And Pharmacology (IDAMAP2007) Amsterdam July 8, 2007*. 59-64.
- 2 Potamias, G., L. **Koumakis**, and V. S. Moustakis. "Enhancing web based services by coupling document classification with user profile." In *Computer as a Tool, 2005. EUROCON 2005. The International Conference on*, vol. 1, pp. 205-208. IEEE, 2005.
- 1 Potamias, G., L. **Koumakis**, G. Charissis, V. Moustakis, M. Tsiknakis, and S. Orphanoudakis. "Supporting Population Centred Medical Decision Making: Design Recommendations and Preliminary Assessment." In *Proceedings 9th International Conference on Human Computer Interaction HCI2003*, pp. 795-799. 2003.

## Book Chapters

- 3 **Koumakis, Lefteris**, George Potamias, Manolis Tsiknakis, Michalis Zervakis, and Vassilis Moustakis. Integrating Microarray Data and GRNs. *Pietro Hiram Guzzi. Microarray Data Analysis, second edition. Methods in Molecular Biology. Springer Protocol. ISBN 978-1-4939-3173-6*
- 2 **Koumakis, L.**, Moustakis, V.A., & Potamias, G.A. (2009). *Web Services Automation. Handbook of Research on Social Dimensions of Semantic Technologies and Web Services. IGI Global, (ISBN 1605666505)*.
- 1 Kondylakis, H., **Koumakis, L.**, Tsiknakis, M.N., Marias, K., Genitsaridi, E., Pravettoni, G, Gorini, A., & Mazzocco, M. (2013). *Smart recommendation services in support of patient empowerment and personalized medicine. Multimedia Services in Intelligent Environments – Recommendation Services. Springer-Verlag*.