
Themis Exarchos

Personal Details Address: Foundation for Research and Technology Hellas, Institute of Molecular Biology and Biotechnology, Dept. of Biomedical Research, University Campus of Ioannina, GR45110, Ioannina, Greece
Tel: +3026510 08821
Mob: +306947709387
Fax: +3026510 08889
E-mail: themis.exarchos@gmail.com, exarchos@cc.uoi.gr
Date of Birth: 12 April, 1980

Education **1998-2003**
University of Patras, Technical School, Computer Engineering and Informatics.
Diploma Grade: 7.01/10.
Diploma Thesis: "Application of Data Mining Techniques in Financial Data, Grade: 10/10)
Supervisor: Prof Dimitrios Christodoulakis.

2004-2009
PhD Thesis

- Dept of Medical Physics, Medical School, University of Ioannina
- Unit of Medical Technology and Intelligent Information Systems.

Title: Data Mining in healthcare decision support systems
Supervisor: Prof Dimitrios Fotiadis

Educational/Teaching Experience **9/10/2006 - 30/2/2007**
Research assistant, Dept of Computer Engineering and Informatics, Technological Education Institute of Epirus
Course: Data Mining

5/3/2007 - 29/6/2007
Research assistant, Dept of Computer Engineering and Informatics, Technological Education Institute of Epirus
Course: Data Mining

1/10/2007 - 25/2/2008
Research assistant, Dept of Computer Engineering and Informatics, Technological Education Institute of Epirus

Course: Data Mining

3/3/2008 - 27/6/2008

Research assistant, Dept of Computer Engineering and Informatics,
Technological Education Institute of Epirus

Course: Data Mining

2/11/2009 - 31/8/2010

Assistant Professor (non-tenure track), Dept. of Biological Applications and
Technologies

Courses: Introduction in Computer Science, Bioinformatics, Advanced courses
in Bioinformatics

2/10/2010 - 31/8/2011

Assistant Professor (non-tenure track), Dept. of Biological Applications and
Technologies

Courses: Introduction in Computer Science, Bioinformatics, Advanced courses
in Bioinformatics

14/10/2011 - 31/7/2012

Lecturer (non-tenure track) Dept. of Biological Applications and Technologies

Courses: Introduction in Computer Science, Bioinformatics, Advanced courses
in Bioinformatics

1/11/2012 - 31/7/2013

Lecturer (non-tenure track) Dept. of Biological Applications and Technologies

Courses: Introduction in Computer Science, Bioinformatics, Advanced courses
in Bioinformatics

14/3/2014 - 31/7/2014

Assistant Professor (non-tenure track), Dept of Informatics, Ionian University

Courses: Decision Support Systems, Cultural Informatics.

1/2/2015 - 31/7/2015

Lecturer (non-tenure track) Dept. of Biological Applications and Technologies

Courses: Introduction in Computer Science, Bioinformatics, Advanced courses
in Bioinformatics

1/3/2016 - today

External instructor, Ionian University, Dept. of Informatics.

Courses: Data Mining, Bioinformatics

**Participation in
research and
development
projects**

1/2/2004 - 31/12/2004

NOESIS - Platform for wide scale integration and visual representation of medical intelligence. Χρηματοδότηση: Ευρωπαϊκή Ένωση
Integrated Project (IP)
Total cost € 7,715,793.00
EC Contribution € 4,400,000.00

1/1/2005 - 30/6/2005

NOESIS - Platform for wide scale integration and visual representation of medical intelligence.
Integrated Project (IP)
Total cost € 7,715,793.00
EC Contribution € 4,400,000.00

1/7/2005 - 31/12/2005

NOESIS - Platform for wide scale integration and visual representation of medical intelligence.
Integrated Project (IP)
Total cost € 7,715,793.00
EC Contribution € 4,400,000.00

15/7/2005 - 30/9/2005

Angio Care - Platform Evaluation

1/1/2006 - 31/12/2006

NOESIS - Platform for wide scale integration and visual representation of medical intelligence.
Integrated Project (IP)
Total cost € 7,715,793.00
EC Contribution € 4,400,000.00

1/1/2007 - 31/12/2007

MATCH: Colon cancer treatment by discovering mutations on tumor suppressor genes
Specific Targeted Research Project (STREP)
Total cost € 2.974.889
EC contribution € 2.015. 033

1/1/2008 - 30/6/2008

MATCH: Colon cancer treatment by discovering mutations on tumor

suppressor genes

Specific Targeted Research Project (STREP)

Total cost € 2.974.889

EC contribution € 2.015. 033

1/7/2008-30/9/2008

RIGHT - Reducing diagnosis and treatment risks by leveraging knowledge and practices of healthcare professionals - Refinement of the right platform by building a new ontology for heart disease, ready to be interpreted in future versions of the prototype.

Specific Targeted Research Project (STREP)

Total cost € 2,974,406.00

EC Contribution € 1,942,000.00

2/1/2009-30/6/2009

VPH2 - The virtual pathological heart of the virtual physiological human Collaborative Project (CP)

Total cost € 5.180.000

EC Contribution € 3.780.000

1/7/2009-31/12/2009

VPH2 - The virtual pathological heart of the virtual physiological human Collaborative Project (CP)

Total cost € 5.180.000

EC Contribution € 3.780.000

2/1/2010-31/3/2010

VPH2 - The virtual pathological heart of the virtual physiological human Collaborative Project (CP)

Total cost € 5.180.000

EC Contribution € 3.780.000

1/7/2010-31/12/2010

ARTreat - Multi-level patient-specific artery and atherogenesis model for outcome prediction, decision support treatment, and virtual hand-on training

Total cost 10.365.202€

EC contribution 7.647.290€

1/7/2010-31/12/2010

SENSORART - A remote controlled Sensorized Artificial heart enabling

patients empowerment and new therapy approaches

Total cost 8.551.997€

EC contribution 6.240.000€

1/1/2011-30/4/2011

ARTreat - Multi-level patient-specific artery and atherogenesis model for outcome prediction, decision support treatment, and virtual hand-on training

Total cost 10.365.202€

EC contribution 7.647.290€

1/10/2011-31/10/2011

PERFORM: A sophisticated multi-parametric system for the continuous-effective assessment and monitoring of motor status in Parkinson's disease and other neurodegenerative diseases

Total cost 9.860.000€

EC contribution 7.000.000€

1/11/2011-31/12/2011

SENSORART - A remote controlled Sensorized Artificial heart enabling patients empowerment and new therapy approaches

Total cost 8.551.997€

EC contribution 6.240.000€

1/2/2012-31/3/2012

ARTreat - Multi-level patient-specific artery and atherogenesis model for outcome prediction, decision support treatment, and virtual hand-on training

Design and development of the plaque characterization algorithms, modeling, dissemination of the project results

(Technical Manager of ARTreat project since 1/12/2011)

Total cost 10.365.202€

EC contribution 7.647.290€

1/4/2012-31/1/2013

ARTreat - Multi-level patient-specific artery and atherogenesis model for outcome prediction, decision support treatment, and virtual hand-on training

Design and development of the plaque characterization algorithms, modeling, dissemination of the project results, System deployment and validation

(Technical Manager of ARTreat project since 1/12/2011)

Total cost 10.365.202€

EC contribution 7.647.290€

1/2/2013-31/7/2013

ARTreat - Multi-level patient-specific artery and atherogenesis model for outcome prediction, decision support treatment, and virtual hand-on training
Design and development of the Treatment Decision Support System, Proof of Concept Study, Public Available Models

Total cost 10.365.202€

EC contribution 7.647.290€

1/9/2013-10/1/2014

SENSORART - A remote controlled Sensorized Artificial heart enabling patients empowerment and new therapy approaches

Total cost 8.551.997€

EC contribution 6.240.000€

1/5/2013 - 31/8/2014

E-Health Interoperability Framework

Contribution: 800.000 €

1/4/2014-31/12/2014

EMBALANCE - A Decision Support System incorporating a validated patient-specific, multi-scale Balance Hyper model towards early diagnostic Evaluation and efficient Management plan formulation of Balance Disorders
-Design of the EMBALANCE DSS Architecture

Total cost 4,740,776.00 €

EC contribution 3,523,000.00 €

1/1/2015-30/6/2016

EMBALANCE - A Decision Support System incorporating a validated patient-specific, multi-scale Balance Hyper model towards early diagnostic Evaluation and efficient Management plan formulation of Balance Disorders
-Participation in WP4 (modelling activities), WP5 (Decision Support System), WP6 (Integrated platform) of the EMBALANCE project.

Total cost 4,740,776.00 €

EC contribution 3,523,000.00 €

1/1/2016-30/6/2016

SMARTOOL project, Simulation Modeling of coronary ARtery disease: a tool for clinical decision support

Total cost 5,007,858.75 €

EC contribution 4,800,858.75 €

Publicatios

Summary

- Books: 1
- Peer Reviewed journal papers: 59
- Conference proceedings: 63
- Posters: 29
- Book Chapters: 14

A. Books

1. T. P. Exarchos, A. Papadopoulos and D. I. Fotiadis (editors), **Handbook of Research on Advanced Techniques in Diagnostic Imaging and Biomedical Applications**, ISBN 978-1-60566-314-2, Information Science Reference, *IGI Global*, Hershey, New York, USA, 2009.

B. Peer Reviewed journal papers

1. T. P. Exarchos, D. Nanou, C. Bazios, Y. Antoniou, D. I. Fotiadis, **The use of attentive interfaces in the integration and visual representation of medical information in the web**, in the *European Journal for the quality of life research*, vol. 3, issue 2, sup.1, pp. 211-215, 2005.
2. T. P. Exarchos, C. Papaloukas, D. I. Fotiadis, L. K. Michalis, **An Association Rule Mining Based Methodology for the Automated Detection of Ischemic ECG Beats**, *IEEE Transactions on Biomedical Engineering*, vol. 53, issue 8, pp. 1531-1540, Aug. 2006.
3. T. P. Exarchos, A. T. Tzallas, D. I. Fotiadis, S. Konitsiotis and S. Giannopoulos, **EEG Transient event detection and classification using association rules**, *IEEE Transactions Information Technology in Biomedicine*, special issue Mining Biomedical Data, vol. 10, issue 3, pp. 451-457, July 2006.
4. M.G. Tsipouras, T.P. Exarchos, C. Papaloukas, A. Bechlioulis, A. Kotsia, T. Nanou, C. Bazios, Y. Antoniou, D.I. Fotiadis, A. Naka, L.K. Michalis, **Automatic Creation of Decision Support Systems: Application and Results in the Cardiovascular Diseases Domain**, *Journal of Information Technology in Healthcare*, vol. 4(4), pp. 222-230, 2006.
5. T. P. Exarchos, M. G. Tsipouras, C. P. Exarchos, C. Papaloukas, D. I. Fotiadis, L. K. Michalis, **A Methodology for the Automated Creation of Fuzzy Expert Systems for Ischaemic and Arrhythmic Beat Classification Based on a Set of Rules Obtained by a Decision Tree**, *Artificial Intelligence in Medicine*, vol. 40, issue 3, pp. 187-200, Jul. 2007.
6. C.D. Katsis, T.P. Exarchos, C. Papaloukas, Y. Goletsis, D.I. Fotiadis and I. Sarmas, **A Two-Stage Method for MUAP Classification Based on EMG Decomposition**, *Computers in Biology and Medicine*, vol. 37, issue 9, pp. 1232-1240, Sep. 2007.
7. C. Lampros, C. Papaloukas, T. P. Exarchos, Y. Goletsis and D. I.

- Fotiadis, **Sequence-based Protein Structure Prediction using a Reduced State-space Hidden Markov Model**, *Computers in Biology and Medicine*, vol. 37, issue 9, pp. 1211-1224, Sep. 2007.
8. T. P. Exarchos, C. Papaloukas, C. Lampros and D. I. Fotiadis, **Mining Sequential Pattern for protein fold recognition**, *Journal of Biomedical Informatics*, vol. 41(1), pp. 165-79, 2008.
 9. M.G. Tsipouras, T.P. Exarchos, D.I. Fotiadis, A. Kotsia, K. Vakalis, K.K. Naka and L.K. Michalis, **Automated Diagnosis of Coronary Artery Disease Based on Data Mining and Fuzzy Modelling**, *IEEE Transactions on Information Technology in Biomedicine*, vol. 12(4), pp. 447-458, 2008.
 10. M.G. Tsipouras, T.P. Exarchos and D.I. Fotiadis, **A Methodology for Automated Fuzzy Model Generation**, *Fuzzy Sets and Systems*, vol. 159(23), pp. 3201-3220, 2008.
 11. T.P. Exarchos, M.G. Tsipouras, C. Papaloukas and D.I. Fotiadis, **A two stage Methodology for Sequence Classification based on Sequential Pattern Mining and Optimization**, *Data and Knowledge Engineering*, vol. 66(1), pp. 467-487, 2008.
 12. K.P. Exarchos, C. Papaloukas, T.P. Exarchos, D.I. Fotiadis, A.N. Troganis, **Prediction of cis/trans Isomerization using Feature Selection and Support Vector Machines**, *Journal of Biomedical Informatics*, vol. 42(1), pp. 140-149, 2009.
 13. K. P. Exarchos, T. P. Exarchos, C. Papaloukas, A. N. Troganis and D. I. Fotiadis, **Detection of discriminative sequence patterns in the neighborhood of proline cis peptide bonds**, *BMC Bioinformatics*, vol. 10, article 113, 2009.
 14. Y. Goletsis, T.P. Exarchos, C.D. Katsis, **Can Ants predict bankruptcy? A comparison of ant colony systems to other state-of-the-art computational**, *New mathematics and natural computation*, vol. 5, 2009.
 15. T.P. Exarchos, M.G. Tsipouras, C. Papaloukas and D.I. Fotiadis, **An optimized sequential pattern matching methodology for sequence classification**, *Springer Knowledge and Information Systems*, DOI 10.1007/s10115-008-0146-2, 2009.
 16. K.P. Exarchos, T.P. Exarchos, C. Papaloukas, A.N. Troganis and D.I. Fotiadis, **PBOND: Web server for the prediction of proline and non-proline cis/trans isomerization**, *Genomics, Proteomics and Bioinformatics*, vol. 7, pp. 138-142, 2009.
 17. N. Giannakeas, P.S. Karvelis, T.P. Exarchos, F.G. Kalatzis and D.I. Fotiadis, **Segmentation of microarray images using pixel classification-comparison with clustering-based methods**, *Computers*

in Biology and Medicine, vol. 43, pp. 705-716, 2013.

18. T.P. Exarchos, D. Baga, D. Chaloglou, D. I. Fotiadis, S. Tsouli, M. Diakou and S. Konitsiotis, **Using partial decision trees to predict Parkinson's symptoms: a new approach for diagnosis and therapy in patients suffering from Parkinson's disease.** *Computers in Biology and Medicine*, vol. 42, pp. 195-204, 2012.
19. Y. Goletsis. T.P. Exarchos, C.D. Katsis, **Credit scoring using an ant mining approach,** *Human Systems Management, Special issue in Intelligent Systems in Finance and Banking*, IOS Press, vol. 29, pp. 79-88, 2010.
20. C.P. Exarchos, T.P. Exarchos, C. Papaloukas, G. Rigas, A.N. Troganis, D.I. Fotiadis, **Extraction of consensus sequence patterns in regions containing non-proline cis peptide bonds and their functional ascertainment,** *BMC Bioinformatics*, vol. 12, paper 142, 2011.
21. Y. Goletsis. T.P. Exarchos, C.D. Katsis, **Bio-Inspired Intelligence for Credit Scoring,** *Special Issue on Computational Methods in Financial Engineering, International Journal of Financial Markets and Derivatives*, vol. 2, pp. 32-49, 2011.
22. C. Lampros, T. Simos, T. P. Exarchos, K. Exarchos, C. Papaloukas and D. I. Fotiadis, **Assesment of optimized Markov models in protein fold recognition,** *Journal of Bioinformatics and Computational Biology*, vol. 12 (4), 1450016, 2014.
23. T. P. Exarchos, K. Stefanou, P. Siogkas, A. Sakelarios, D. I. Fotiadis, K. Naka, L. K. Michalis, N. Filipovic, O. Parodi, **ARTool: A platform for the development of Multi-level patient-specific artery and atherogenesis models,** *Transactions on Internet Research, special issue on Computational Bioengineering*, accepted.
24. P. K. Siogkas, A. Sakellarios, T. P. Exarchos, K. Stefanou, D. I. Fotiadis, K. Naka, L. K. Michalis, N. Filipovic, O. Parodi, **Blood Flow in Arterial segments:Rigid vs. Deformable Walls Simulations,** *Journal of the Serbian Society for Computational Mechanics*, vol. 5, pp. 69-77, 2011.
25. L.S. Athanasiou, P.S. Karvelis, T. P. Exarchos, V.D. Tsakanikas, K.K. Naka, L.K. Michalis, and D.I. Fotiadis, **A hybrid plaque characterization method using intravascular ultrasound images,** *Journal of Information Technology in Healthcare*, *Accepted*
26. K. P. Exarchos, K. Kourou, T. P. Exarchos, C. Papaloukas, M. V. Karamouzis and D. I. Fotiadis, **Sequence patterns mediating functions of disordered proteins,** *Advances in Experimental Medicine and Biology*, 2014.
27. P. Siogkas, A. Sakellarios, T.P. Exarchos, L. Athanasiou, E. Karvounis, K. Stefanou, E. Fotiou, D. I. Fotiadis, K.K. Naka, L.K. Michalis, N. Filipovic

- and O. Parodi, **Multi-scale patient-specific artery and atherogenesis models**, *IEEE Transactions on Biomedical Engineering letters, Special Issue on Multi-Scale Modeling and Analysis for Computational Biology and Medicine*, vol. 58, pp. 3464-3468, 2011.
28. A.I. Sakellarios, K. Stefanou, P. Siogkas, V.D. Tsakanikas, C.V. Bourantas, L. Athanasiou, T.P. Exarchos, E. Fotiou, K.K. Naka, M.I. Papafaklis, A.J. Patterson, V.EL. Young, J.H. Gillard, L.K. Michalis and D.I. Fotiadis, **Novel methodology for 3D reconstruction of carotid arteries and plaque characterization, based upon magnetic resonance imaging carotid angiography data**, *Magnetic Resonance Imaging Journal*, vol. 30, pp. 1068-1082, 2012.
 29. N. Filipovic, N. Meunier, M. Kojic, V. Isalovic, M. Radovic, Z. Milosevic, D. Nikolic, D. Milasinovic, T. Exarchos, O. Parodi and D. Fotiadis, **Computer Simulation of Plaque formation and Development**, *Transactions on Internet Research, special issue on Computational Bioengineering*, accepted.
 30. E.C. Karvounis, T.P. Exarcho, E. Fotiou and D.I. Fotiadis, **ART-ML - A novel XML format for modeling and representation of biological procedures in atherosclerosis**, *Journal of Technology in Healthcare*, Accepted.
 31. A. I. Sakellarios, P. Siogkas, K. Stefanou, T. Exarchos, C. V. Bourantas, E. Fotiou, K. K. Naka, L. K. Michalis and D. I. Fotiadis, **Finite element modelling of the effect of tachycardia and hypertension on LDL accumulation into the arterial wall**, *Journal of Biomedical Informatics*, submitted.
 32. A. I. Sakellarios, P. Siogkas, T. Exarchos, K. Stefanou, C. V. Bourantas, L. Athanasiou, E. Fotiou, M. Papafaklis, K. K. Naka, L. K. Michalis and D. I. Fotiadis, **Modelling LDL Accumulation in the case of Endothelial Dysfunction**, *Journal of the Serbian Society for Computational Mechanics*, vol. 5, pp. 90-100, 2011.
 33. O. Parodi, T. Exarchos, P. Marraccini, F. Vozzi, Z. Milosevic, D. Nikolic, A. Sakellarios, P. Siogkas, D. Fotiadis, N. Filipovic, **Patient-specific prediction of coronary plaque growth from CTA angiography: a multiscale model for plaque formation and progression**, *IEEE Transactions of Information Technology in Biomedicine, Special Issue on Cardiovascular Health Informatics*, vol. 16, pp. 952-965, 2012.
 34. M. Akay, T.P. Exarchos, D.I. Fotiadis, K.S. Nikita, **Emerging Technologies for patient specific healthcare**, Guest Editorial, *IEEE Transactions of Information Technology in Biomedicine*, accepted.
 35. A. I. Sakellarios, M. I. Papafaklis, P. Siogkas, L. Athanasiou, T. Exarchos, K. Stefanou, C.V. Bourantas, , K. K. Naka, L.K. Michalis, O. Parodi and

- D.I. Fotiadis, **Patient-Specific Computational Modelling of LDL Subendothelial Accumulation in a Stenosed Right Coronary Artery: Effect of Hemodynamic and Biologic Factors**, *American Journal of Physiology - Heart and Circulatory Physiology*, *Accepted*.
36. P. K. Siogkas, M. I. Papafaklis, A. I. Sakellarios, K A. Stefanou, C V. Bourantas, L. S. Athanasiou, T. P. Exarchos, K. K. Naka, L. K. Michalis, O. Parodi, and D. I. Fotiadis, **Patient-specific Simulation of Coronary Artery Pressure Measurements: An In Vivo Three-Dimensional Validation Study in Humans**, *Biomed Research International*, 2015.
37. S. Balocco, C. Gatta, F. Ciompi, A. Wahle, P. Radeva, S. Carlier , G. Unal, E. Sanidas, F. Mauri, X. Carillo, T. Kovarnik, C.-W. Wang, H.-C. Chen, T. P. Exarchos, D. I. Fotiadis, F. Destrempe, G. Cloutier, O. Pujol, M. Alberti, E. Gerardo Mendizabal-Ruiz, M. Rivera, T. Aksoy, R. W. Downe, I. Kakadiaris, **Standardized evaluation methodology and reference database for evaluating IVUS image segmentation**, *Computerized medical imaging and graphics*, vol. 36, pp. 70-90, 2014.
38. N. Filipovic, D. Nikolic, I. Saveljic, Z. Milosevic, T. Exarchos, W. Pelosi and O. Parodi, **Computer Simulation of Three Dimensional Plaque Formation and Progression in the Coronary Artery**, *Computer and Fluids*, vol. 88, pp. 826-833, 2013.
39. K.P. Exarchos, C. Carpegianni, G. Rigas, T.P. Exarchos, F. Vozzi, A. Sakellarios, P. Marraccini, O. Parodi, D.I. Fotiadis, **A Multiscale Approach for Modeling Atherosclerosis Progression**, *IEEE Journal of Biomedical and Health Informatics*, vol. 19(2), pp. 709-719, 2015.
40. Z. Milosevic, D. Nikolic, I. Saveljic, M. Radovic, T. Exarchos, O. Parodi, N. Filipovic, **Three dimensional computer modelling of plaque formation and LDL transport within artery and throughout the vessel wall**, *Journal of the Serbian Society for Computational Mechanics*, *accepted*.
41. L.S. Athanasiou, C.V. Bourantas, G. Rigas, A.I. Sakellarios, T.P. Exarchos, P.K. Siogkas, A. Ricciadri, K.K. Naka, M.I. Papafaklis, L.K. Michalis, F. Prati and D.I. Fotiadis, **Methodology for fully automated segmentation and plaque characterization in intracoronary optical coherence tomography images**, *Journal of Biomedical Optics*.
42. T.P. Exarchos, C. Bellos, I. Bakola, D. Kikidis, A. Bibas, D. Koutsouris and D. I. Fotiadis, **Management and Modeling of Balance Disorders using Decision Support Systems: The EMBALANCE project**, *Advances in Experimental Medicine and Biology*.
43. L. Athanasiou, A.I. Sakellarios, C.V. Bourantas, G. Tsirka, P. Siogkas, T.P. Exarchos, K.K. Naka, L. K. Michalis and D.I. Fotiadis, **Currently available methodologies for the processing of Intravascular**

Ultrasound and Optical Coherence Tomography images, *Expert Review of Cardiovascular Therapy*.

44. L. Athanasiou, G. Rigas, A. Sakellarios, C. Bourantas, K. Stefanou, E. Fotiou, T. P. Exarchos, P. Siogkas, K. K. Naka, O. Parodi, F. Vozzi, Z. Teng, V. Young, J. Gillard, L. Michalis and D. I. Fotiadis, **Error propagation in the characterization of atheromatic plaque types based on imaging, *Computer methods and programs in biomedicine*, 2015.**
45. L.S. Athanasiou, G.A. Rigas, A.I. Sakellarios, T.P. Exarchos, P.K. Siogkas, K.K. Naka, C.V. Bourantas, L.K. Michalis, O. Parodi, F. Vozzi and D.I. Fotiadis, **Three-Dimensional Reconstruction of Coronary Arteries and Plaque Morphology using CT Angiography - Comparison and Registration using IVUS, *BMC Medical Imaging*, accepted.**
46. D. Panetta, G. Pelosi, F. Viglione, C. Kusmic, M. Terreni, N. Belcari, L. Athanasiou, A. Del Guerra, T. Exarchos, N. Filipovic, M. Giovanna Trivella, P. A Salvadori, O. Parodi, **Quantitative micro-CT based coronary artery profiling using interactive local thresholding and cylindrical coordinates, *Technology and Healthcare* 2015.**
47. K. Kourou, T. Exarchos, K. P. Exarchos, M. V. Karamouzis and D. I. Fotiadis, **Machine Learning Applications in Cancer Prognosis and Prediction, *Computational and Structural Biotechnology Journal*, vol. 13, pp. 8-17, 2015.**
48. N. Filipovic, M. Rosic, V. Isailovic, Z. Milosevic, D. Nikolic, D. Milasinovic, M. Radovic, B. Stojanovic, M. Ivanovic, I. Tanaskovic, I. Saveljic, M. Milosevic, D. Petrovic, M. Obradovic, T. Exarchos, A. Sakellarios, P. Siogkas, P. Marraccini, F. Vozzi, N. Meunier, Z. Teng, D. Fotiadis, O. Parodi, M. Kojic, **ARTREAT project: computer, experimental and clinical analysis of three-dimensional plaque formation and progression in arteries, *Journal of the Serbian Society for Computational Mechanics*, vol. 5, pp. 129-146, 2011.**
49. L.S. Athanasiou, G.A. Rigas, A.I. Sakellarios, T.P. Exarchos, P.K. Siogkas, K.K. Naka, D. Panetta, G. Pelosi, F. Vozzi, L.K. Michalis, O. Parodi, D.I. Fotiadis, **Computerized methodology for micro-CT and histological data inflation using an IVUS based translation map, *Computers in Biology and Medicine*, 2015.**
50. A.S. Peulić, D. Nikolić, I. Končar, T. Exarchos, O. Parodi, N.D. Filipović, **Software and Hardware Systems for Abdominal Aortic Aneurysm Mechanical Properties Investigation, *FME Transactions*, 2015.**
51. D. Bujanja, A. Djukic, A. Jurisic-Skevin, V. Grbovic, I. Saveljic, T. Exarchos, N. Filipovic, **Static and dynamic measurement and computer simulation of diabetic mellitus foot biomechanics, *Journal***

- of the Serbian Society for Computational Mechanics, vol. 8, pp. 64-74, 2014.
52. N. Filipovic, M. Rosic, V. Isailovic, Z. Milosevic, D. Nikolic, M. Radovic, D. Milasinovic, M. Kojic, N. Meunier, T. Exarchos, D. Fotiadis, O. Parodi, **Experimental analysis and computer simulation of a plaque formation**, *International Journal of Artificial Organs*, vol. 34, pp. 710, 2011.
 53. T.P. Exarchos, K. Stefanou, G. Rigas, A. Bibas, D. Kikidis, C. Nikitas, F.L. Wuyts, B. Ihtijarevic, L. Maes, M. Cenciarini, C. Maurer, N. Macdonald, D.-E. Bamiou, L. Luxon, M. Prasinos, G. Spanoudakis, D. Koutsouris, D.I. Fotiadis, **Mining Balance Disorders' data for the development of Diagnostic Decision Support Systems**, *Computers in Biology and Medicine*, submitted.
 54. K. Kourou, G. Rigas, K.P. Exarchos, Y. Goletsis, T.P. Exarchos, S. Jacobs, B. Meyns, M.G. Trivella, D.I. Fotiadis, **Prediction of time dependent survival in HF patients after VAD implantation using pre and post-operative data**, *Computers in Biology and Medicine*, accepted.
 55. P.K. Siogkas, M.I. Papafaklis, L.S. Athanasiou, A.I. Sakellarios, G.A. Rigas, T.P. Exarchos, P.A. Bizopoulos, K.K. Naka, L.K. Michalis, E.R. Edelman, D.I. Fotiadis, **Assessment of the hemodynamic influence of factors in coronary tandem lesions: a multi-parametric computational study**, accepted.
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- 17 A.I. Sakellarios, P.K. Siogkas, L.S. Athanasiou, T.P. Exarchos, M.I. Papafaklis, C.V. Bourantas, K.K. Naka, L.K. Michalis, G. Pelosi, O. Parodi and D.I. Fotiadis, **Prediction of atherosclerotic plaque site from LDL oxidation modeling: a proof of concept geometry based study**, *The 8th international symposium on Biomechanics in Vascular Biology and Cardiovascular Disease.*
- 18 T.P. Exarchos, N. Filipovic, O. Parodi and D.I. Fotiadis, **Translating Multiscale Patient Specific Atherosclerosis Progression Models into Treatment Decision Support Systems**, *19th Congress of the European Society of Biomechanics*
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- 21 G. Rigas, L. Athanasiou, A. Sakellarios, T. Exarchos, M. Papafaklis, C. Bourantas, O. Parodi, L. K. Michalis and D. I. Fotiadis, **3D Reconstruction of Coronary Arteries and Plaque Characterization using Computed Tomography**, *George D. Behrakis Cardiovascular Symposium on Vascular Biology Identification and Treatment of High-Risk Coronary Plaque: A Challenge and an Opportunity, Brigham and Women's Hospital, Boston MA, November 14, 2013*
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- 23 P. Siogkas, G. Karanasiou, M. I. Papafaklis, A. I. Sakellarios, L. S. Athanasiou, T. P. Exarchos, K. Stefanou, G. Rigas, C. V. Bourantas, K. K. Naka, L. K. Michalis and D. I. Fotiadis, **Computational Assesment of Fractional Flow Reserve and Virtual Stent Deployment**, *George D. Behrakis Cardiovascular Symposium on Vascular Biology Identification and Treatment of High-Risk Coronary Plaque: A Challenge and an Opportunity, Brigham and Women's Hospital, Boston MA, November 14, 2013*
- 24 K. Stefanou, T. Exarchos, A. Sakellarios, L. Athanasiou, P. Siogkas, O. Parodi, N. Filipovic, L. Michalis, K. Naka, D. I. Fotiadis, **ARTool: A set of software modules with diagnostic and prognostic functionalities for atherosclerosis treatment**, *George D. Behrakis Cardiovascular Symposium on Vascular Biology Identification and Treatment of High-Risk Coronary Plaque: A Challenge and an Opportunity, Brigham and Women's Hospital, Boston MA, November 14, 2013*
- 25 A. F Dragoni, T. Exarchos, D. Fotiadis, L. S. Godlevsky et al., **The MARSHAL proposal in ICT and Robotics**, *Euro-Mediterranean Medical Informatics and Telemedicine, 10th International Meeting, EMMIT 2014, e-Health, Demographic Change and TeleCare in Mediterranean Countries.*
- 26 T. Exarchos, D. Fotiadis, **Management and Modelling of Balance Disorders: the European EMBALANCE Project**, *Euro-Mediterranean Medical Informatics and Telemedicine, 10th International Meeting, EMMIT 2014, e-Health, Demographic Change and TeleCare in Mediterranean Countries.*
- 27 A. Bibas and T. Exarchos, **Diagnostic support systems for Dizziness**, *Dizziness course, London UK, 26 June 2015.*
- 28 N.K. Macdonald, T.P. Exarchos, M. Prasinos, D. Kikidis, L. Rammazzo, A. Anwer, L. Maes, L. Celis, F. Wuyts, C. Maurer, M. Pavlou, T. Bibas, G. Spanoudakis, L. Luxon, D.-E. Bamiou, **Data Repository Modeling and Clinical Application**, *29th Barany Society meeting, Seoul, Korea, 2016.*
- 29 P.K. Siogkas, C.D. Anagnostopoulos, T.P. Exarchos, R. Liga, J. Knuuti, A.J.H.A. Scholte, O. Parodi, L.K. Michalis, D. Neglia, D.I. Fotiadis, **Computational Hemodynamic Assessment of coronary lesions from Computed Tomography Angiography. A novel approach**, *accepted European Society of Cardiology (ESC) 2016 Congress, Rome, Italy.*

E. Book Chapters

1. T. P. Exarchos, C. Papaloukas, M. G. Tsipouras, Y. Goletsis, D. I. Fotiadis, L. K. Michalis, **ECG Diagnosis using Decision Support Systems**, *Handbook of research and informatics in Healthcare and Biomedicine*, Ed. A. Lazakidou chapter 18th, Idea Group Publishing, USA, 2006.
2. T.P. Exarchos, M.G. Tsipouras, C. Papaloukas, A. Bechlioulis, A. Kotsia, T.

- Nanou, C. Bazios, Y. Antoniou, D.I. Fotiadis, A. Naka and L.K. Michalis, **A Framework for Decision Support Systems Creation: Application to the Cardiovascular Diseases Domain**, in *Exploiting the Knowledge Economy: Issues, Applications, Case Studies*, P. Cunningham and M. Cunningham (eds), IOS Press, Amsterdam, The Netherlands, 2006.
3. T. P. Exarchos, N. Giannakeas, Y. Goletsis, C. Papaloukas and D. I. Fotiadis, **Pattern Analysis and decision support in cancer through Clinico-Genomic profiles**, *Proc. 15th International Workshops on Conceptual Structures*, Springer Verlag, pp. 78-83, 2007.
 4. M.G. Tsipouras, T.P. Exarchos, D.I. Fotiadis, A. Bechlioulis and K.K. Naka, **Decision Support Systems for Cardiovascular Diseases based on Data Mining and Fuzzy Modelling**, *Encyclopedia of Healthcare information systems*, N. Wickramasinghe and E. Geisler (eds.), Idea Group Inc (IGI), USA, 2008.
 5. T. P. Exarchos, C. Papaloukas, M. G. Tsipouras, Y. Goletsis, D. I. Fotiadis, L. K. Michalis, **ECG Diagnosis using Decision Support Systems**, *Intelligent Information Technologies: Concepts, Methodologies, Tools, and Applications*, Ed. V. Sugumaran, Information Science Reference, IGI Global, Hershey, New York, USA, 2008
 6. Y. Goletsis, T.P. Exarchos, N. Giannakeas, M.G. Tsipouras and D.I. Fotiadis, **Integration of clinical and genomic data for decision support in cancer**, accepted in *Encyclopedia of Healthcare information systems*, N. Wickramasinghe and E. Geisler (eds.), Idea Group Inc (IGI), USA, 2008.
 7. M.G. Tsipouras, T.P. Exarchos, D.I. Fotiadis, A. Bechlioulis and K.K. Naka, **Decision Support Systems for Cardiovascular Diseases based on Data Mining and Fuzzy Modelling**, *Strategic Information Systems: Concepts, Methodologies, Tools, and Applications*, Ed. M. Gordon Hunter, Information Science Reference, IGI Global, Hershey, New York, USA, 2009
 8. Y. Goloetsis, C. Papaloukas, T.P. Exarchos and C.D. Katsis, **Bankruptcy prediction through artificial intelligence**, in *Encyclopedia of Information Science and Technology*, Second Edition, 2009.
 9. T. P. Exarchos, C. Papaloukas, M. G. Tsipouras, Y. Goletsis, D. I. Fotiadis, L. K. Michalis, **ECG Diagnosis using Decision Support Systems**, *Medical Informatics: Concepts, Methodologies, Tools and Applications*, Ed J. Tan, Information Science Reference, IGI Global, Hershey, New York, USA, 2009
 - 10.K. Exarchos, T. P. Exarchos and D.I. Fotiadis, **Genome Informatics**, *The Biomedical Engineering Handbook*, ed. Bronzino, 2010, accepted.
 11. A. Sakellarios, T. Exarchos, G. Rigas, P. Siogkas, E. Fotiou, M. Ivanovic, V. Isailovic, N. Filipovic, D. Fotiadis, **Parallel computing simulation in Blood flow modeling**, in (L. Drossos, V. S. Melissas and D. Tsolis, Eds), *Grid Supercomputing for Complex Systems and Technical Applications*:

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12. C. Lambros, C. Papaloukas, T. Exarchos and D.I. Fotiadis, **HMMs in Protein Fold Classification**, *series Methods in Molecular Biology*.
13. N. Filipovic, M. Radovic, V. Isailovic, Z. Milosevic, D. Nikolic, I. Savelic, T. Djukic, T. Exarchos, D.I. Fotiadis, O. Parodi, **Computer modeling of atherosclerosis**, *Springer Computational Medicine in Data Mining and Modeling*, book chapter, 2013.
14. N. Filipovic, M. Radovic, D. Nikolic, I. Saveljic, Z. Milosevic, T.P. Exarchos, G. Pelosi, D.I. Fotiadis, O. Parodi, **Computer Predictive Model for Plaque Formation and Progression in the Artery**, *Handbook of Research on Trends in the Diagnosis and Treatment of Chronic Conditions*, IGI Group publishing, 2015.

**F.
Evaluator/Memb
er of organizing
committees**

2015 -Today - Member of the Epirus Regional Council for Research and Innovation

2014 - 2015 - Evaluator of proposals in the framework call ERA.NET RUS Plus Joint Call on Innovation (stage 1 and stage 2)

2014 - Evaluator of proposals for Qatar National Research Foundation

2014 - Evaluator of proposals in the framework "Creation and support of new innovation entrepreneurship Spin-off and Spin-out)

2013 - Associate Editor in IEEE Journal of Biomedical and Health Informatics

2012 - Evaluator of proposals for the research committee of the University of Thessaly

2011 - Member of the program Committee of the IEEE-EMBS International Conference on Biomedical and Health Informatics, 2011

2011 - Guest Editor (with Prof. Metin Akay, Prof. Dimitrios Fotiadis and Prof Konstantina Nikita) in the journal IEEE Transactions on Information Technology and Applications in Biomedicine, Special Issue on Emerging Technologies for Patient Specific Healthcare.

2011 - Co-chair (with Prof. Dimitrios Fotiadis) of the special session Computation Bioengineering, during the 7th Greek Association of

Computational Mechanics (GRACM) International Congress on Computational Mechanics

2011 - Member of the organizing committee of the 10th IEEE International Workshop on Biomedical Engineering, Kos, 2011, Greece (10thBioeng).

2011 - Member of the organizing committee of the 2nd International ICST Conference on Wireless Mobile Communication and Healthcare - MobiHealth 2011 (Mobihealth).

2010 - Chair of the local organizing committee of the 10th IEEE International Conference on Information Technology and Applications in Biomedicine (ITAB 2010).

2010 - Vice Chair, Greek IEEE Engineering in Medicine and Biology Chapter

2010 - Evaluator A and B stage of proposals "Cooperate"
Ministry of Education, lifelong learning

2008 - Member of the organizing committee of the IEEE Bioinformatics and Bioengineering BIBE 2008, Athens.

2007 - Member of the organizing committee of the International Conference of Information Resources Management Association (IRMA), Managing Worldwide Operations and Communications with Information Technology, held in Vancouver, Canada, May 2007.

Journal Reviewer

- Medical and Biological Engineering and Computing
- Knowledge and Information Systems, Springer Verlag
- Artificial Intelligence in Medicine
- BMC Bioinformatics
- IEEE Transactions on Information Technology in Biomedicine
- IEEE Transactions on Biomedical Engineering
- Expert reviews of cardiovascular therapy
- Computer methods and programs in Biomedicine
- Computers in Biology and Medicine
- Healthcare Technology Letters
- Biomedical Engineering: Applications, Basis and Communications

■ **G. Other**

- English, First Certificate in English
- Member of the IEEE Engineering in Medicine and Biology Society
- Member of the Technical Chamber of Greece
- Member of the scientific committee of the technical chamber of Greece, Dept. of Epirus, for educational issues
- Member of the scientific committee of the technical chamber of Greece, Dept. of Epirus, for new technology issues