PERSONAL INFORMATION	
SURNAME	TZALLAS
NAME	ALEXANDROS
DATE OF BIRTH	16/05/1977
PLACE OF RESIDENCE	ARTA
E-MAIL	tzallas@uoi.gr
TEL.	+306932643071

CURRENT POSITION(S)

12.2022 - today	**Associate Professor (Biomedical Engineering),** School of Informatics & Telecommunications, Department of Informatics & Telecommunications, University of Ioannina, Greece
11.2021- today	**Honorary Research Fellow,** Department of Metabolism, Digestion and Reproduction, Faculty of Medicine, Imperial College London
02.2021 - today	**Academic Research Partner,** Institute of Digital Innovation (I.DIG.I.) University Research Center, University of Ioannina, Greece
10.2021-today	**Adjunct Faculty Member** in the thematic module BNP50: Mathematical Modeling in Biology), Interuniversity Master's Program of Studies entitled "Bioinformatics and Neuroinformatics" of the Hellenic Open University (HOU), Greece
10.2021-today	**Member of Academic Supervision Committee**, Public Administration and E-Governance (DMD) Postgraduate Study Program of the Hellenic Open University (HOU), Greece

PREVIOUS POSITION(S)

02.2019 -11.2022	**Assistant Professor (Biomedical Engineering),** School of Informatics & Telecommunications, Department of Informatics & Telecommunications, University of Ioannina, Greece
04.2017 -06.2021	**Academic Research Partner,** Center for Research & Technology Hellas, Information Technologies Institute, Greece
10.2018 - 01.2019	**Lecturer (Biomedical Engineering),** School of Informatics & Telecommunications, Department of Informatics & Telecommunications, University of Ioannina, Greece
03.2014 - 09.2018	**Lecturer (Computer Programming),** School of Applied Technology, Department of Computer Engineering, Technological Educational Institute of Epirus, Greece
10.2011 - 02.2014	**Adjunct Lecturer,** School of Business and Finance, Department of Business Administrator, Technological Educational Institute of Western Macedonia, Greece
11.2011 - 05.2013	**Postdoctoral Research Fellow,** Foundation for Research and Technology Hellas (FORTH) – BRI
02.2012 - 07.2013	**Adjunct Assistant Professor,** School of Engineering, Department. of Informatics and Computer Technology, Technological Educational Institute of Western Macedonia, Greece
10.2008 - 06.2013	**Adjunct Assistant Professor** School of Applied Technology, Department of Computer Engineering, Technological Educational Institute of Epirus, Greece
10.2008 - 06.2013	**Research Fellow,** Medical School, Nursing-Pathology Master's Program, University of Ioannina, Greece
10.2008 - 06.2011	**Adjunct Assistant Professor, School** of Health and Welfare Professions, Department of Nursing, Technological Educational Institute of Epirus, Greece

10.2010 - 02.2011	**Adjunct Lecturer,** School of Business Administration, Department of Cultural Heritage Management and New Technologies, University of Patras, Greece
10.2009 - 02.2010	**Adjunct Lecturer,** Faculty of Engineering/ Engineering Informatics and Telecommunications, University of Western Macedonia, Greece
02.2008 - 12.2015	**Postdoctoral Research Fellow,** School of Health Sciences, Faculty of Medicine, University of Ioannina, Greece
06.2002 - 01.2008	**Research Fellow,** School of Health Sciences, Faculty of Medicine, University of Ioannina, Greece

EDUCATION

06.2002 - 03.2009	School of Health Sciences, Faculty of Medicine, University of Ioannina, Greece, Thesis Title: Automated Diagnosis of Electroencephalogram (EEG), PhD
09.1996 - 04.2001	School of Sciences, Department of Physics, University of Ioannina, Greece, BSc

PUBLICATIONS

- Number of Publications in peer-reviewed International Journals: **98**
- Number of Chapters in Books**: 7**
- Number of Publications in peer-reviewed International & National Conferences: **91**
- Number of Books: **2**
- Number of Granted Patents: **3**

Citations

- **2807** references (source: Scopus), **h-index = 24**.
- **4427** references (source: Google Scholar), **h-index = 30**, **i10-index = 72**.

LIST OF LEADING INTERNATIONAL PEER-REVIEWED JOURNALS

- High-Throughput, Machine Learning–Based Quantification of Steatosis, Inflammation, Ballooning, and Fibrosis in Biopsies From Patients With Nonalcoholic Fatty Liver Disease, R. Forlano, B. H. Mullish, N. Giannakeas, J.B. Maurice, N. Angkathunyakul, J. Lloyd, **A. T. Tzalla**s, M. Tsipouras, M. Yee, M.R. Thursz, R.D. Goldin and P. Manousou, Clinical Gastroenterology and Hypatology, Volume: 19(31505-8), Pages: S1542-3565, (in press), https://doi.org/10.1016/j.cgh.2019.12.025.
- Quantification of Liver Fibrosis—A Comparative Study, A. Arjmand, M.G. Tsipouras, **A.T. Tzallas**, R. Forlano, P. Manousou and N. Giannakeas, Applied Sciences, Volume: 10(2), Page: 447, 2020, https://doi.org/10.3390/app10020447.
- A novel classification via clustering algorithm for fibrosis assessment in liver biopsies, D.C. Tsouros, P.N. Smyrlis, M.G. Tsipouras, D.G. Tsalikakis, N. Giannakeas, **A.T. Tzallas** and P. Manousou, Health and Technology, Volume: 10, Paged: 777-785, 2020, https://doi.org/10.1007/s12553-019-00405-5.
- Training of Deep Convolutional Neural Networks to Identify Critical Liver Alterations in Histopathology Image Samples, A. Arjmand, C.T. Angelis, V. Christou, **A.T. Tzallas**, M.G. Tsipouras, E. Glavas, R. Forlano, P. Manousou, N. Giannakeas, Applied Sciences, Volume: 10(1), Page: 42, 2020, https://doi.org/10.3390/app10010042.
- Utilization of the Allen Gene Expression Atlas to gain further insight into glucocorticoid physiology in the adult mouse brain, K. Kalafatakis, N. Giannakeas, S. Lightman, I. Charalampopoulos, G. Russell, M. Tsipouras and **A. Tzallas,** Neuroscience Letters, Volume: 706, Pages: 194-200, 2019, https://doi.org/10.1016/j.neulet.2019.05.020.
- Sex hormone levels in drug-naïve, first-episode patients with psychosis, P. Petrikis, S. Tigas, **A.T. Tzallas**, A. Karampas, I. Papadopoulos, International Journal of Psychiatry in Clinical Practice, Volume: 24 (1), Pages: 20-24, 2019, https://doi.org/10.1080/13651501.2019.1699117.
- Hybrid extreme learning machine approach for heterogeneous neural networks, V. Christou, G. Brown, M.G. Tsipouras, N. Giannakeas and **A.T. Tzallas**, Neurocomputing, Volume: 361, Pages: 137-150, 2019, https://doi.org/10.1016/j.neucom.2019.04.092.
- EEG Window Length Evaluation for the Detection of Alzheimer's Disease over Different Brain Regions, K.D. Tzimourta, N. Giannakeas, **A.T. Tzallas**, L.G. Astrakas, T. Afrantou, P. Ioannidis, N. Grigoriadis, P. Angelidis, D.G. Tsalikakis and M.G. Tsipouras, Brain Sciences, Volume: 9($), Page: 81, 2019, https://doi.org/10.3390/brainsci9040081.
- Analysis of electroencephalographic signals complexity regarding Alzheimer's Disease, K.D. Tzimourta, T. Afrantou, P. Ioannidis, M. Karatzikou, **A. Tzallas**, N. Giannakeas, L. Astrakas, P. Angelidis, E. Glavas, N. Grigoriadis, D.

Tsalikakis and M.G. Tsipouras, Computers and Electrical Engineering Journal, Volume: 76, Pages: 198-212, 2019, https://doi.org/10.1016/j.compeleceng.2019.03.018.

- A robust methodology for classification of epileptic seizures in EEG signals, K.D. Tzimourta, **A.T. Tzallas**, N. Giannakeas, L.G. Astrakas, D.G. Tsalikakis, P. Angelidis and M.G. Tsipouras, Health and Technology, Volume: 9, Pages: 135-142, 2018, https://doi.org/10.1007/s12553-018-0265-z.
- Hybrid Extreme Learning Machine Approach for Homogeneous Neural Networks, V. Christou, M.G. Tsipouras, N. Giannakeas and **A.T. Tzallas**, Neurocomputing, Volume: 311, Pages: 397-412, 2018, https://doi.org/10.1016/j.neucom.2018.05.064.
- PERFORM: A System for Monitoring, Assessment and Management of Patients with Parkinson's Disease, **A.T. Tzallas**, M.G. Tsipouras, G. Rigas, D.G. Tsalikakis, E.C. Karvounis, M. Chondrogiorgi, F. Psomadellis, J. Cancela, M. Pastorino, M.T. Arredondo-Waldmeyer, S. Konitsiotis and D.I. Fotiadis, Sensors, Volume: 14(11), Pages: 21329-21357, 2014, https://doi.org/10.3390/s141121329.
- Wearability assessment of a wearable system for Parkinson's disease remote monitoring based on a body area network of sensors, J. Cancela, M. Pastorino, **A.T. Tzallas**, M.G. Tsipouras, G. Rigas, M.T. Arredondo and D.I. Fotiadis, Sensors, Volume: 14(9), Pages: 17235-17255, 2014, https://doi.org/10.3390/s140917235.
- Automatic Detection of Freezing of Gait events in Patients with Parkinson's Disease, E.E. Tripoliti, **A.T. Tzallas**, M.G. Tsipouras, G. Rigas, P. Bougia, M. Leontiou, S. Konitsiotis, S. Tsouli and D.I. Fotiadis, Computer Methods and Programs in Biomedicine, Volume: 110(1), Pages: 12-26, 2013, https://doi.org/10.1016/j.cmpb.2012.10.016.
- An Automated Methodology for Levodopa-Induced Dyskinesia Assessment based on Gyroscope and Accelerometer Signals, M.G. Tsipouras, **A.T. Tzallas**, G. Rigas, D.I. Fotiadis and S. Konitsiotis, Artificial Intelligence in Medicine, Volume: 55(2), Pages: 127-135, 2012, https://doi.org/10.1016/j.artmed.2012.03.003.
- Assessment of Tremor Activity in the Parkinson's disease using a Set of Wearable Sensors, G. Rigas, M.G. Tsipouras, P. Bougia, **A.T. Tzallas**, E.E. Tripoliti, D. Baga, D.I. Fotiadis, S.G. Tsouli and S. Konitsiotis, IEEE Information Technology in Biomedicine, Volume: 16(3), Pages: 478- 487, 2012, https://doi.org/10.1109/TITB.2011.2182616.
- Epileptic Seizure Detection in Electroencephalograms using Time-Frequency Analysis, **A.T. Tzallas**, M.G. Tsipouras and D.I. Fotiadis, IEEE Transactions on Information Technology in Biomedicine, Volume: 13(5), Pages: 703-710, 2009, https://doi.org/10.1109/TITB.2009.2017939.
- Automatic seizure detection based on time-frequency analysis and artificial neural networks, **A.T. Tzallas,** M.G. Tsipouras, DI Fotiadis, Computational Intelligence and Neuroscience, Volume 2007, Article ID 80510, Pages 13, 2007, https://doi.org/10.1155/2007/80510.
- A method for classification of transient events in EEG recordings: application to epilepsy diagnosis. **A.T. Tzallas**, P.S. Karvelis, C.D. Katsis, D.I. Fotiadis, S. Giannopoulos, S. Konitsiotis. Methods Inf Med, Volume: 45(6), Pages: 610-21. 2006, https://doi.org/10.1055/s-0038-1634122.

CONFERENCES/WORKSHOPS/etc.

LIST OF LEADING PEER-REVIEWED CONFERENCES PROCEEDINGS

- 19th IEEE International Conference on Bioinformatics and Bioengineering, Automated Assessment of Pain Intensity Based on EEG Signal Analysis, 28-30 Oct. 2019, Athens, Greece.
- 42nd International Conference on Telecommunications and Signal Processing, Deep learning in liver biopsies using convolutional neural networks, 5-6 July 2019, Budapest, Hungary.
- The international workshop of e-Health Pervasive Wireless Applications and Services, Assessing the Frailty of Older People using Bluetooth Beacons Data, 15 Oct. 2018, Limassol, Cyprus.
- 30th annual IEEE International Conference on Tools with Artificial Intelligence, Random forests with stochastic induction of decision trees, 5-7 Nov. 2018, Volos, Greece.
- 17th International Conference on Bioinformatics and Bioengineering, Protein Structure Recognition by Means of Sequential Pattern Mining, 23-25 Oct. 2017, Washington DC, USA.
- 17th International Conference on Bioinformatics and Bioengineering, Image Enhancement of Routine Biopsies: A Case for Liver Tissue Detection, 23-25 Oct. 2017, Washington DC, USA.
- 30th IEEE International Symposium on Computer-Based Medical Systems, Automated collagen proportional area extraction in liver biopsy images using a novel classification via clustering algorithm, 22-24 June 2017, Thessaloniki, Greece.
- 30th IEEE International Symposium on Computer-Based Medical Systems, EEG Classification and Short-Term Epilepsy Prognosis using Brain Computer Interface Software, 22-24 June 2017, Thessaloniki, Greece.
- 30th IEEE International Symposium on Computer-Based Medical Systems, Measuring Steatosis in Liver Biopsies using Machine Learning and Morphological Imaging, 22-24 June 2017, Thessaloniki, Greece.
- 30th IEEE International Symposium on Computer-Based Medical Systems, Wavelet based classification of epileptic seizures in EEG signals, 22-24 June 2017, Thessaloniki, Greece.

- •24th Telecommunications Forum, Classification of EEG signals using feature creation produced by grammatical evolution, 22-23 Nov. 2016, Belgrade, Serbia.
- 18th IEEE Conference on Business Informatics, Automated hepatic steatosis assessment through liver biopsy image processing, 29 Aug. - 1 Sep. 2016, Paris, France.
- 37th IEEE EMBS Annual International Conference, A clustering-based method for collagen proportional area extraction in liver biopsy images, 25-29 Aug. 2015, Milano, Italy.
- 35th IEEE EMBS Annual International Conference, Adverse Event Prediction in Patients with Left Ventricular Assist Devices, 3-7 Jul. 2013, Osaka, Japan.
- 34th IEEE EMBS Annual International Conference, Automated knowledge-based fuzzy models generation for weaning of patients receiving Ventricular Assist Device therapy, 28 Aug. - 1 Sep. 2012, San Diego, USA.
- 33rd IEEE EMBS Annual International Conference, On Automated Assessment of Levodopa-Induced Dyskinesia in Parkinson's Disease, 30 Aug. - 3 Sep. 2011, Boston, USA.
- 10th International IEEE EMBS Conference on Information Technology Applications in Biomedicine, A Decision Support Tool for Optimal Levodopa Administration in Parkinson's Disease, 2-5 Nov. 2010, Corfu, Greece.
- International ICST Conference on Wireless Mobile Communication and Healthcare, On assessing motor disorders in Parkinson's disease, 18-20 Oct. 2010, Agia Napa, Cyprus.
- 32nd IEEE EMBS Annual International Conference, Automated Levodopa-Induced Dyskinesia Assessment, 31 Aug. - 4 Sep. 2010, Buenos Aires, Argentina.
- The XII Mediterranean Conference on Medical and Biological Engineering and Computing, An Automated Method for Levodopa-Induced Dyskinesia Detection and Severity Classification, 27-30 May 2010, Chalkidiki, Greece.

TEACHING ACTIVITIES

12.2022 – today	**Associate Professor -** Biomedical Engineering, Bioinformatics, Programing I & II, Digital Signal Processing, Medical Informatics (Postgraduate Course), Advanced Signal Processing Techniques (Postgraduate Course), School of Informatics & Telecommunications, Department of Informatics & Telecommunications, University of Ioannina, Greece
02.2019 – 11.2022	**Assistant Professor -** Biomedical Engineering, Bioinformatics, Programing I & II, Digital Signal Processing, Medical Informatics (Postgraduate Course), Advanced Signal Processing Techniques s (Postgraduate Course), School of Informatics & Telecommunications, Department of Informatics & Telecommunications, University of Ioannina, Greece
10.2018 - 01.2019	**Lecturer -** Biomedical Engineering, Bioinformatics, Programing I & II, Digital Signal Processing, Medical Informatics (Postgraduate Course), School of Informatics & Telecommunications, Department of Informatics & Telecommunications, University of Ioannina, Greece
03.2014 - 09.2018	**Lecturer** -Biomedical Engineering, Bioinformatics, Programing I & II, Digital Signal Processing, Medical Informatics, Analog electronics, Theory of Computing, School of Applied Technology, Department of Computer Engineering, Technological Educational Institute of Epirus, Greece
10.2011 - 02.2014	**Adjunct Lecturer –** Introduction to Computer Science, Research Methodology, School of Business and Finance, Department of Business Administrator, Technological Educational Institute of Western Macedonia, Greece
02.2012 - 07.2013	**Adjunct Assistant Professor -** Digital Signal Processing School of Engineering, Department. of Informatics and Computer Technology, Technological Educational Institute of Western Macedonia, Greece
10.2008 - 06.2013	**Adjunct Assistant Professor -** Digital Signal Processing in Real-Time Systems, Analog electronics, Digital Electronics, Programming I School of Applied Technology, Department of Computer Engineering, Technological Educational Institute of Epirus, Greece
10.2008 - 06.2013	**Research Fellow -** Healthcare Information Systems (Postgraduate Course), Endoscopy Imaging (Postgraduate Course), Medical School, Nursing-Pathology Master's Program, University of Ioannina, Greece
10.2008 - 06.2011	**Adjunct Assistant Professor -** Biomedical Engineering, Medical Informatics, School of Health and Welfare Professions, Department of Nursing, Technological Educational Institute of Epirus, Greece

10.2010 - 02.2011	**Adjunct Lecturer** - Digital Content Processing I**,** School of Business Administration, Department of Cultural Heritage Management and New Technologies, University of Patras, Greece
10.2009 - 02.2010	**Adjunct Lecturer-** Optical Communications Systems & Networks, Faculty of Engineering/ Engineering Informatics and Telecommunications, University of Western Macedonia, Greece

MEMBERSHIPS & REVIEWING ACTIVITIES

2019 - today	Associate Editor for BioMedical Engineering Online Journal (Springer Nature)
2019 - today	Advisory Board Member of Sci, an Open Access Journal by MDPI
2019 -2020	Guest Editor of Special Issue "Human-Robot Interaction Applications in Internet of Things (IoT) Era", Sensors, an Open Access Journal by MDPI
2019 - 2020	Reviewer/Evaluator and member of Thematic Committee of Materials-Constructions of the national action "RESEARCH CREATE-INNOVATE" (ΕΡΕΥΝΩ-ΔΗΜΙΟΥΡΓΩ-ΚΑΙΝΟΤΟΜΩ)
2019	Reviewer/Evaluator of the EDBM (ΕΔΒΜ) research national proposals: "Supporting researchers with an emphasis on young researchers"
2018 - 2019	Guest Editor of Special Issue "Frontiers in Wearable Devices", Inventions, an Open Access Journal by MDPI
2017	Evaluator and member of the Thematic Committee of the Engineering and Technological Sciences for the evaluation of the proposals of the PhD Candidates of the Hellenic Foundation for Research and Innovation (ELIDEK)
2017 - today	Section Board Member of Invention, an Open Access Journal by MDPI
2016 - today	Editorial Board, Engineering, Technology & Applied Science Research (ETASR)
2016	External Reviewer of PhD Thesis, Universidad Politécnica de Madrid, Spain
2015	Reviewer in European Programs, Joint Call "ERA.Net RUS Plus for S&T Projects", http://www.eranet-rus.eu/en/196.php
2004 - today	Reviewer in more than 100 scientific journal papers (IEEE Transactions on Biomedical Engineering, Biomedical Signal Processing & Control, Computer Methods & Programs in Biomedicine, Computers in Biology & Medicine, Sensors, Inventions, etc.)
2004 - today	Reviewer in more than 10 scientific conference papers (IEEE EMBS, IEEE ITAB, IEEE BIBE, IEEE NER, EMBEC, IEEE BHI, PErvasive Technologies Related to Assistive Environments (PETRA), etc.).

SUPERVISION OF GRADUATE STUDENTS & POSTDOCTORAL FELLOWS

2008 – today Supervision of 55 (5 on going) undergraduate theses/18 Master theses (9 on going)/ 5 PhD Theses / 3 Postdoc theses

- Technological Educational Institute of Epirus, School of Engineering, Department. of Informatics and Computer Technology Greece
- University of Ioannina, School of of Informatics and Telecommunications, Department of Informatics and Telecommunications, Greece
- University of Ioannina, School of Health Sciences, Faculty of Medicine, University of Ioannina, Greece

FELLOWSHIPS & AWARDS

2017	1st Student Best Paper Award in 30th IEEE International Symposium on Computer-Based Medical Systems (CBMS)

2016	Principal Investigator of IKY Fellowships of Excellence for postgraduate studies in Greece – (Dr. Nikolaos Giannakeas) SIEMENS Program (Contract No. 2017-017-0173-11220).
2015	Honour from the Greek Ministry of Education and promotion through the action Academic and Research Excellence in Higher Education: Promotion and Support of my research activity entitled "Home monitoring systems for patients with neurodegenerative diseases" http://excellence.minedu.gov.gr/en/listing/484-tzallas
2013	Member of the AEON Health Team, which won two prizes of "the Most Innovative Solution" and the prize of "the Best Use of Resource" at the Health and Wellness Innovation 2013 competition. http://newmed.media.mit.edu/health-and-wellness-innovation-2013
2011	Member of the PERFORM project, which selected for the exhibition of the Innovation Convention 2011. PERFORM project has been one of the 50 projects selected (among 450 applications received) in order to be present in the Convention 2011. http://ec.europa.eu/research/innovation-union/ic2011/index_en.cfm?pg=project_details&project=perform
2011	Honour from the Hellenic Federation of Enterprises (SEV)/ EUROBANK EFG for the project PERFORM (PERFORM- a Wearable System for Remote Monitoring and management of Parkinson's disease) at the competition "Greece Innovates." http://issuu.com/kainotomeis.gr/docs/kainotomeis_2011/1?e=4802680/3387527
2010	pHealth Innovation Award 2010 for the best paper in the 7th International Conference on Wearable Micro and Nano Technologies for Personalized Health: PERFORM-A Wearable System for Remote Monitoring and management of Parkinson's disease, by P. Bougia, M. Tsipouras, A. Tzallas, D. Fotiadis, S. Konitsiotis, D. Chaloglou and T. Mitsana.
2003	PhD Scholarship, Foundation for Research and Technology-Hellas (FORTH), Biomedical Research Institute (BRI), Greece

RESEARCH GRANTS

Project Title	Funding source	Period	Role of the PI
DEEP– in - BIOPSIES: Intelligent Platform for Supporting Diagnosis/ Staging in Biopsies using Deep Learning (project code: T2EDK-03660)	NSRF 2014-2020 (Research - Create – Innovate)	06.2021 – 12.2023	**Principal Investigator**
ISOMETRIC: Intelligent System of Outpatient Monitoring Evaluation during Kinetic Rehabilitation in Internet Cloud	NSRF 2014-2020	01.2019 – 03.2021	Academic Research Partner
SMARTGLOVE: Smart Glove for Assessment of the Motor Condition of Patients with Neurodegenerative Diseases	NSRF 2014-2020	09.2018 –10.2022	**Principal Investigator**
HUMORIST: Hospital care monitoring system using wireless sensor networks	NSRF 2014-2020	09.2018- 11.2023	**Principal Investigator**
X-BALLOON: Automated system for ballooning degeneration measurement in Liver biopsies	NSRF 2014-2020	09.2018 – 02.2022	**Principal Investigator**
ARTA SMART CITY: Implementation of a strategic and business plan of the Municipality of Arta for the Smart City	MUNICIPALITY OF ARTA	09.2018 – 12.2019	**Principal Investigator**
MELITY: Development of Methodologies and Integrated Security Solutions for IoT technologies in e-Health services	NSRF 2014-2020	08.2018- 01.2022	**Principal Investigator**

IOANNINA SMART CITY: Services of external expert for the implementation of a strategic and business plan of the Municipality of Ioannina for the Smart City	MUNICIPALITY OF IOANNINA	01.2018- 05.2019	**Principal Investigator**
CAREGIVERSPRO: Self-management interventions and mutual assistance community services, helping patients with dementia and caregivers connect with others for evaluation, support and inspiration to improve the care experience	H2020	04.2017 - 12.2018	Academic Research Partner
PD MANAGER: mhealth platform for Parkinson's disease management	H2020	03.2015 – 12.2015	Postdoctoral Research Fellow
MEDIGENE: Genetic and environmental factors of insulin resistance syndrome and its long-term complications in immigrant Mediterranean populations	FP7 ICT-2007	03.2013 - 08.2014	Postdoctoral Research Fellow
Collagen Morphometric Analysis in Liver Biopsies of HCV Patients	NSFR 2007-2013	09.2013 - 03.2014	Postdoctoral Research Fellow
SENSORART: A remote controlled Sensorized Artificial Heart enabling Patient's Empowerment	FP7 ICT-2007	11.2011 - 05.2013	Postdoctoral Research Fellow
HERCULES: Medical Genetics and Biomedical Information Infrastructure Development in Early Diagnosis, monitoring and treatment of pediatric neurological disorders	NSFR 2007-2013	10.2010 - 12.2010	Postdoctoral Research Fellow
PERFORM: A sophisticated multi-parametric system for the continuous-effective assessment and monitoring of motor status in Parkinson's disease	FP7 ICT-2007	2.2008 - 07.2011	Postdoctoral Research Fellow
OPEN SOURCE: Application and operation of electronic government services to citizens, using ERP-CDM applications	INFORMATION SOCIETY S.A.	06.2007 – 09.2007	Research Fellow
Technical Support and Design of Metropolitan Fiber Network in the Region of Western Macedonia	UNIVERSITY OF WESTERN MACEDONIA	09.2006 – 04.2007	Research Fellow
ANGIOCARE: An automated system for fast three-dimensional coronary reconstruction by Integrated Angiographic and Intracoronary Ultrasound Data	MICHAELIDES CENTER	01.2005 – 12.2005	Research Fellow
CARDITIS: Blood flow modeling	MICHAELIDES CENTER	01.2004 – 12.2004	Research Fellow
INFACE: Advanced Visual InterFACEs fortimely Retrieval of patient related information	FP5 IST-2001	06.2003 - 12.2003	Research Fellow
CITATION: Citizen Information Tool in smart Administrations	FP5 IST-2000	01.2003 - 05.2003	Research Fellow
EPICUROS: A virtual learning environment for medical doctors	LEONARDO (2001-2003)	01.2002 - 10.2002	Research Fellow

Childcare: Intelligent Collaborative Environment for out-of-hospital children healthcare	FP5 IST-2001	01.2002 – 12.2002	Research Fellow

SCIENTIFIC ACHIEVEMENTS

Dr. Alexandros T. Tzallas holds a position as Associate Professor in the field of Biomedical Engineering and specifically in the "Analysis and Processing of Biomedical Data", at the Department of Informatics and Telecommunications, of the University of Ioannina, Greece. Dr. Tzallas holds a BSc degree in Physics from the University of Ioannina, Ioannina, Greece (in 2001) and a PhD degree in Medical Physics from the University of Ioannina, Ioannina, Greece (in 2009). Dr. Tzallas is also affiliated as Honorary Research Fellow at the Department of Metabolism of Digestion and Reproduction at the Faculty of Medicine of Imperial College London. Dr. Tzallas has worked on several research and development European and national programs as a software engineer, researcher, technical manager, seminar instructor, and postdoctoral research fellow. He has published more than 190 peer-reviewed manuscripts[1], 7 book chapters and he is the editor of 2 books[2]. He has received more than 4420 citations[3] and he serves as a reviewer for several scientific journals and conferences[4]. Dr. Tzallas also serves as an Associate Editor of BioMedical Engineering OnLine Journal, Frontiers in Neuroinformatics Journal and Digital Medicine and Health Technology Journal, as well as an Editorial Board member of Engineering, Technology & Applied Science Research Journal and Inventions Journal[5]. His research interests include

[1] **Publications in major international peer-reviewed multi-disciplinary scientific journals & conference proceedings (10 more recent publications as main author selected from 190 peer-reviewed publications)**:

- Kalafatakis K, Giannakeas N, Lightman SL, Charalampopoulos I, Russell GM, Tsipouras, M and **Tzallas A**. "Utilization of the Allen gene expression atlas to gain further insight into glucocorticoid physiology in the adult mouse brain", Neuroscience Letters, 706, pp. 194-200, 2019 **(Last Author)**
- Tsouros DC, Smyrlis P, Tsipouras MG, Giannakeas N and **Tzallas AT**, "Random forests with stochastic induction of decision trees", In Proc. of 30th annual IEEE International Conference on Tools with Artificial Intelligence (ICTAI, Volos, Greece), 2018. **(Last Author)**
- **Tzallas AT**, Katertsidis N, Glykos K, Segkouli S, Votis K, Tzovaras D, Barrué C, Paliokas I, and Cortés U. "Designing a gamified social platform for people living with dementia and their live-in family caregivers." In Proc. of PErvasive Technologies Related to Assistive Environments (PETRA), June 26–29, Corfu, Greece, 2018 **(First Author)**
- **Tzallas AT**, Giannakeas N, Zoulis K, Tsipouras MG, Glavas E, Tzimourta KD, Astrakas LG and Konitsiotis S, "EEG Classification and Short-Term Epilepsy Prognosis using Brain Computer Interface Software," In Proc. of 30th IEEE International Symposium on Computer Based Medical Systems (CBMS), Thessaloniki, Greece, 2017 **(First Author)**
- Tzimourta KD, Tsipouras MG, Giannakeas N, Astrakas LG, Konitsiotis S and **Tzallas AT**. "Wavelet based classification of epileptic seizures in EEG signals," In Proc. of 30th IEEE International Symposium on Computer-Based Medical Systems (CBMS), Thessaloniki, Greece, 2017 **(Last Author)**
- Ntagiou AN, Tsipouras MG, Giannakeas N and **Tzallas AT**, "Protein Structure Recognition by Means of Sequential Pattern Mining," *2017 IEEE 17th International Conference on Bioinformatics and Bioengineering (BIBE)*, Washington, DC, USA, pp. 334-339, 2017 **(Last Author)**
- Giannakeas N, Tsiplakidou M, Tsipouras MG, Manousou P, Forlano R and **Tzallas AT**. "Image Enhancement of Routine Biopsies: A Case for Liver Tissue Detection," *2017 IEEE 17th International Conference on Bioinformatics and Bioengineering (BIBE)*, Washington, DC, USA, pp. 236-240, 2017 **(Last Author)**
- **Tzallas AT**, Tsoulos I, Tsipouras MG, Giannakeas N, Androulidakis I and Zaitseva E, "Classification of EEG signals using feature creation produced by grammatical evolution", In Proceedings of 24th Telecommunications Forum (TELFOR 2016, Belgrade, Serbia), 22-23 Nov. 2016 **(First Author)**
- **Tzallas AT**, Katertsidis N, Karvounis EC, Tsipouras MG, Riga G, Goletsis Y, Zielinski K, Fresiello L, Molfetta A, Ferrari G, Terrovitis J, Trivella MG and Fotiadis DI. "Modeling and Simulation of Speed Selection on Left Ventricular Assist Devices." Computers in Biology and Medicine 51(1), 128-139, 2014 **(First Author)**
- **Tzallas AT**, Tsipouras MG, Rigas G, Tsalikakis DG, Karvounis EC, Chondrogiorgi M, Psomadellis F, Cancela J, Pastorino M, Waldmeyer MT, Konitsiotis S, Fotiadis DI. PERFORM: a system for monitoring, assessment and management of patients with Parkinson's disease. Sensors (Basel), Nov 11;14(11):21329-57, 2014 **(First Author)**

[2] **Book Editor**

- **Ambient Media and Systems,** Third International ICST Conference, AMBI-SYS 2013, Athens, Greece, March 15, 2013, Revised Selected Papers, Editors: Konstantinos T. Angelis, Dimitrios Fotiadis, **Alexandros T. Tzallas**
- **Medical Informatics**, Tsipouras M, Giannakeas N, Karvounis E, **Tzallas A**, 2015. [ebook] Athens: Hellenic Academic Libraries Link. Available Online at: http://hdl.handle.net/11419/2975

[3] **Google Scholar Citations:** https://scholar.google.gr/citations?user=Jrpqo_QAAAAJ&hl=en

[4] **Reviewer for Several Scientific Journals and Conferences**

- **Reviewer in more than 100 scientific Journals:** EURASIP Journal on Advances in Signal Processing, Biomedical Signal Processing & Control, Computers in Biology and Medicine, Computer Methods& Programs in Biomedicine, Computational Intelligence & Neuroscience, IEEE Transactions on Biomedical Engineering, IEEE Journal of Biomedical and Health Informatics, IEEE Transactions on Signal Processing, Journal of Neuroscience Methods, Sensors etc.
- **Reviewer in more than 10 scientific Conferences:** IEEE International Symposium on Computer-Based Medical Systems (CBMS), Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS), IEEE International Conference on Information Technology and Applications in Biomedicine (ITAB), IEEE-EMBS International Conferences on Biomedical & Health Informatics (BHI) etc.

[5] **Editorial or Advisory Board member and Associate Editor in three (3) Scientific Journals**

- Engineering, Technology & Applied Science Research Journal**:** http://etasr.com/index.php/ETASR/about/editorialTeam
- Inventions Journal: http://www.mdpi.com/journal/inventions/sectioneditors/design,_modeling_and_computing_methods
- BioMedical Engineering Online Journal (Springer Nature):

neuroscience, Electroencephalography (EEG), wearable devices, biomedical signal and image processing, biomedical engineering, decision support and medical expert systems, and biomedical applications. His scientific work through the PERFORM project[6] an 8 million euros effort supported by European Union that aimed to tackle problems associated with the efficient remote health status monitoring, the qualitative and quantitative assessment and the treatment personalization for people suffering from neurodegenerative diseases and movement disorders, such as Parkinson's disease (PD), has been awarded the pHEALTH innovation award (pHEALTH 2010, Berlin, Germany) and has been among the 21 finalists in the "GREEK INNOVATES" contest. Also, the PERFORM project was invited to participate in the Innovation Convention 2011, as one of the best EU R&D programs. Dr. Tzallas was a member of the AEON Health Team, which won two prizes of "the Most Innovative Solution" and the prize of "the Best Use of Resource" at the Health and Wellness Innovation 2013[7] competition. AEON Health project was strongly related to ambulatory monitoring of motor functions in patients with Parkinson's disease (PD) using wearable sensors and devices. Besides the International and National honours and awards, Dr. Tzallas has done extensive research work in Parkinson's disease (PD) monitoring and assessment using wearable sensors and he has already published more than 18 peer-reviewed manuscripts: 6 in peer-reviewed International Journals[8] and 12 in peer-reviewed International Conferences[9] and has been

https://biomedical-engineering-online.biomedcentral.com/about/editorial-board

[6] **Awards through the Perform Project**

2010 pHealth Innovation Award 2010 for the best paper in the 7th International Conference on Wearable Micro and Nano Technologies for Personalized Health: PERFORM-A Wearable System for Remote Monitoring and management of Parkinson's disease, by P. Bougia, M. Tsipouras, **A. Tzallas**, D. Fotiadis, S. Konitsiotis, D. Chaloglou and T. Mitsana.

2011 Honour from the Hellenic Federation of Enterprises (SEV)/ EUROBANK EFG for the project PERFORM (PERFORM- a Wearable System for Remote Monitoring and management of Parkinson's disease) at the competition "Greece Innovates.". http://issuu.com/kainotomeis.gr/docs/kainotomeis_2011/1?e=4802680/3387527

2011 Selection of PERFORM project for the exhibition of the Innovation Convention 2011.
PERFORM project has been one of the 50 projects selected (among 450 applications received) in order to be present in the Convention 2011.

[7] **Awards through the AEON Health Project in the MIT Media Lab competition "Health and Wellness Innovation 2013"**

2013 https://www.youtube.com/watch?v=trNEZMXfPsk

[8] **Publications in peer-reviewed International Journals for Parkinson's Disease:**

- Exarchos TP, **Tzallas AT,** Baga D, Chaloglou D, Fotiadis DI, Tsouli S, Diakou M, Konitsiotis S. "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, Issue 2, pp. 195-204, (2012)
- Tsipouras MG, **Tzallas AT**, Rigas G, Konitsiotis S, and Fotiadis DI. "An Automated Methodology for Levodopa-Induced Dyskinesia Assessment based on Gyroscope and Accelerometer Signals." **Artificial Intelligence in Medicine**, Vol. 55, Issue 2, pp. 127-135, (2012)
- Rigas G, Tsipouras MG, Bougia P, **Tzallas AT**, Tripoliti EE, Baga D, Fotiadis DI, Tsouli S, and Konitsiotis S. "Assessment of Tremor Activity in the Parkinson's disease using a Set of Wearable Sensors." **IEEE Transactions on Information Technology in Biomedicine,** Vol. 16, Issue 3, pp. 478-487, (2012)
- Tripoliti EE**, Tzallas AT**, Tsipouras MG, Rigas G, Bougia P, Leontiou M, Konitsiotis S, Tsouli S, and Fotiadis DI. "Automatic Detection of Freezing of Gait events in Patients with Parkinson's Disease." **Computer Methods and Programs in Biomedicine,** Vol. 110, Issue 1, pp. 12-26 (2013)
- **Tzallas AT**, Tsipouras MG, Rigas G, Tsalikakis DG, Karvounis EC, Chondrogiorgi M, Psomadellis F, Cancela J, Pastorino M, Waldmeyer MT, Konitsiotis S, Fotiadis DI. PERFORM: a system for monitoring, assessment and management of patients with Parkinson's disease. **Sensors (Basel)** 2014 Nov 11;14(11):21329-57 (2014)
- Cancela J, Pastorino M, **Tzallas AT**, Tsipouras MG, Rigas G, Arredondo MT, Fotiadis DI. Wearability assessment of a wearable system for Parkinson's disease remote monitoring based on a body area network of sensors. **Sensors (Basel)** 2014 Sep 16;14(9):17235-55 (2014)

[9] **Publications in peer-reviewed International Conferences for Parkinson's Disease:**

- Konitsiotis S, Baga K, Fotiadis D, **Tzallas A**, Diakou M, and Tsouli S. "PERFORM: A system for the continuous remote monitoring of patients with neurodegenerative diseases and the objective evaluation of patient status." In Procs of 13th International Congress of Parkinson's Disease and Movement Disorders, 7-11 June 2009 France, Tu-294
- Rigas G, **Tzallas AT**, Tsalikakis DG, Konitsiotis S, and Fotiadis DI. "Real-Time Quantification of Resting Tremor in the Parkinson's disease." In Proceedings of the 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS 2009), September 2-6 2009 USA, pp. 1306-1309
- Rigas G, **Tzallas AT**, Baga K, Exarchos TP, Katsis CD, Chaloglou DA, Konitsiotis S, and Fotiadis DI. "PERFORM: First steps in the assessment of patient motion status and support to treatment changes." In Proceedings of the 9th International Conference on Information Technology & Applications in Biomedicine (ITAB 2009). 4-7 November 2009 Cyprus, pp. 1-4
- Tsipouras MG, **Tzallas AT**, Rigas G, Bougia P, Fotiadis DI and Konitsiotis S. "An automated Method for Levodopa-Induced Dyskinesia detection and severity classification." In Proceedings of the 12th Mediterranean Conference on Medical and Biological Engineering and Computing (MEDICON 2010). 27-30 May 2010 Greece, pp. 1-4
- Bougia P, Tsipouras MG, **Tzallas AT**, Fotiadis DI, Konitsiotis S Chaloglou D and Mitsana T. "PERFORM: A wearable system for remote monitoring and management of Parkinson's disease." In Proceedings of the 7th International Conference on Wearable Micro and Nano Technologies for Personalized Health (pHealth 2010), 26–28 May 2010 Germany, 03
- Tsipouras MG, **Tzallas AT**, Rigas G, Bougia P, Fotiadis DI and Konitsiotis S. "Automated Levodopa-Induced Dyskinesia Assessment." In Proceedings of the 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS 2010). 31 August -4 September 2010 Argentina, pp. 2411-2414
- Tsipouras MG, **Tzallas AT**, Tripoliti E, Rigas G, Bougia P, Fotiadis DI, Tsouli S and Konitsiotis S. "On assessing motor disorders in

granted 2 patents on the field of wearable devices and neurodegenerative diseases[10] Dr. Tzallas has been honored and promoted from the Greek Ministry of Education and promotion through the action of Academic and Research Excellence in Higher Education: Promotion and Support[11] for his research activity entitled "Home monitoring systems for patients with neurodegenerative diseases". Dr. Tzallas is an expert in developing, optimising and validating tools for acquiring data of biomedical relevance, as well as the processing and analysing neuroimaging data[12].

Parkinson 's disease." In Proceedings of the International ICST Conference on Wireless Mobile Communication and Healthcare (MobiHealth 2010). 18-20 October 2010 Cyprus, LNICST 55, pp. 35–38

- Rigas G, Bougia P, Baga D, Tsipouras MG, **Tzallas AT**, Tsouli S, Chondrogiorgi M, Konitsiotis S, and Fotiadis DI."A decision support tool for optimal Levodopa administration in Parkinson's disease." In Proceedings of the 10th International Conference on Information Technology and Applications in Biomedicine (ITAB 2010). 3-5 November 2010 Greece, pp. 1-6
- Tsipouras MG, **Tzallas AT**, Rigas G, Konitsiotis S and Fotiadis DI. "Automated Levodopa-induced Dyskinesia Assessment under Real-life Conditions." The 10th International Conference on Alzheimer's and Parkinson's Diseases, AD/PD 2011, 9-13 March 2011, Barcelona, Spain, P-282
- Tsipouras MG, **Tzallas AT**, Fotiadis DI and Konitsiotis S. "On the Automated Assessment of Levodopa-Induced Dyskinesia in Parkinson's Disease." In Proceedings of the 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS 2011). Boston, 30 August -3 September 2011, pp. 2679 – 2682
- **Tzallas A**, Tsipouras M., Fotiadis D, Konitsiotis S. "PERFORM: An integrated system for the optimized monitoring and management of Parkinson's disease patients." 4th Panellhnio Conference on Biomedical Engineering-ELEVIT 2012, Athens, Greece, Jan 20-21
- Tsipouras MG, **Tzallas AT**, Rigas G, Karvounis EC, Tsalikakis DG, Cancela J, Pastorino M, Arredondo M, Konitsiotis S, and Fotiadis DI. "A wearable system for long-term ubiquitous monitoring of common motor symptoms in patients with Parkinson's disease." IEEE-EMBS International Conference on Biomedical and Health Informatics-BHI 2014, Spain, Valencia 1-4 June 2014, pp. 173 – 176

[10] **Granted Patents**

2017 International Patent: **A. Tzallas**, M. Tsipouras, I. Smanis, N. Katertsidis, N. Giannakeas, " Method and Glove/Device for the determination and improve evaluation of the motor symptoms of a disease", World Intellectual Property Organization, Pub. No.: WO2017221037, 28-12-2017

2016 **A. Tzallas**, I. Smanis, M. Tsipouras, "ΜΕΘΟΔΟΣ ΚΑΙ ΣΥΣΚΕΥΗ-ΓΑΝΤΙ ΓΙΑ ΤΟΝ ΠΡΟΣΔΙΟΡΙΣΜΟ ΚΑΙ ΤΗΝ ΒΕΛΤΙΩΜΕΝΗ ΑΞΙΟΛΟΓΗΣΗ ΤΩΝ ΚΙΝΗΤΙΚΩΝ ΣΥΜΠΤΩΜΑΤΩΝ ΜΙΑΣ ΝΟΣΟΥ", OVI, 20160100340, 21-6-2016.

[11] **Honour from the Greek Ministry of Education and promotion through the action Academic and Research Excellence in Higher Education: Promotion and Support of my research activity entitled "Home monitoring systems for patients with neurodegenerative diseases"**
https://www.youtube.com/watch?v=T8Dbury4hBw&t=5s

[12] **Relevant Publications that include Processing and Analysis Biomedical or Neuroimaging Data:**

- Kalafatakis K, Giannakeas N, Lightman SL, Charalampopoulos I, Russell GM, Tsipouras, M and **Tzallas A**. Utilization of the Allen gene expression atlas to gain further insight into glucocorticoid physiology in the adult mouse brain, Neuroscience Letters, 706, pp. 194-200, 2019
- Tzimourta KD, Giannakeas N, **Tzallas AT**, Astrakas LG, Afrantou T, Ioannidis P, Grigoriadis N, Angelidis P, Tsalikakis DG, Tsipouras, MG, "EEG window length evaluation for the detection of Alzheimer's disease over different brain regions", Brain Sciences, 9 (4), art. no. 81, 2019
- Archimandriti D, Iliou C, **Tzallas A**, et al "Comparison of tuberculin skin test and interferon-gamma release assay screening in patients with rheumatoid arthritis starting anti-tumor necrosis factor therapy", Annals of the Rheumatic Diseases;76:1193, 2017
- Ntagiou AN, Tsipouras MG, Giannakeas N and **Tzallas AT**, "Protein Structure Recognition by Means of Sequential Pattern Mining," 2017 IEEE 17th International Conference on Bioinformatics and Bioengineering (BIBE), Washington, DC, USA, 2017, pp. 334-339.
- Petrikis P, Tigas S, **Tzallas AT**, Archimandriti DT, Skapinakis P,and Mavreas V. Prolactin levels in drug-naïve patients with schizophrenia and other psychotic disorders International Journal of Psychiatry in Clinical Practice 20 (3), 165-169, 2016
- Petrikis P, Voulgari PV, **Tzallas AT**, Archimandriti DT, Skapinakis P, Mavreas V. Cytokine profile in drug-naive, first episode patients with psychosis. Journal of Psychosomatic research 79 (4), 324-327, 2015
- Petrikis P, Tigas S, **Tzallas AT**, Papadopoulos I, Skapinakis P, Mavreas V. Parameters of glucose and lipid metabolism at the fasted state in drug-naïve first-episode patients with psychosis: Evidence for insulin resistance. Psychiatry research 229 (3), 901-904, 2015
- Challa A, Evagelidou E, Siomou E, **Tzallas A**, Giapros V. "Associations of 25-hydroxyvitamin D with major components of metabolic syndrome in children". In Proc of 7th Intern Conf on Children's Bone Health, Bone Abstracts, vol. 4 pp P134, Austria, Salzburg 27-30 June 2015
- Karvelis PS, **Tzallas AT**, Fotiadis DI, and Georgiou I. A Multichannel Watershed-Based Segmentation Method for Multispectral Chromosome Classification." IEEE Transactions on Medical Imaging, Vol. 27, Issue 5, pp. 697-708, 2008