

CURRICULUM VITAE

Anastasios (Tassos) Bezerianos

Professor

Patras March 2012

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PART A: GENERAL INFORMATION

1. PERSONAL DATA

Surname : BEZERIANOS
Name: ANASTASIOS
Birth Date : 9-3-1953
Place of Birth : Alissos, Achaia, Greece
Marital Status: Married, Two children.

2. POSITIONS

16-9-2012 - today : Research Professor, Singapore Institute for Neurotechnology (SINAPSE), National University of Singapore, SG

01-09-2000 – 31-03-2012 : Visiting Research Professor in School of Medicine Johns Hopkins University, Baltimore, MD, USA.

16-6-2004 - today : Full Professor, Department of Medical Physics, School of Medicine, University of Patras, GR.

19-2-1998 to 15-06-2004: Associate Professor, Department of Medical Physics, School of Medicine, University of Patras, GR.

21-12-1992 to 18-2-1998: Assistant Professor, Department of Medical Physics, School of Medicine, University of Patras, GR..

16-3-1988 to 20-12-1992: Lecturer, Department of Medical Physics, School of Medicine, University of Patras, GR.

4-2-82 to 15-3-1988: Research Associate, Department of Medical Physics, School of Medicine, University of Patras, GR.

01-04-1985 to 30-08-1985: Research Fellow in Medical School, Free University of Berlin

3. STUDIES DEGREE

1987: PhD degree, School of Medicine, University of Patras, Greece.

1981: MS degree, School of Natural Sciences, University of Athens, Greece

1975: BS, School of Natural Sciences, University of Patras, Greece.

4. ANALYSIS OF STUDIES

1982-1987: Research towards the PhD degree on «Coupling of viscoelastic properties of long bones to bone cement properties». Experimental work in Patras School of Medicine and Free University Orthopaedic Dept. Berlin West Germany. PhD degree from Patras University with the highest distinction.

1978-1981: Master program in Electronics and Telecommunication of School of Natural Sciences, University of Athens, Greece. MS thesis « Laser Devices for Optical Fiber Communications». MS degree of very good (7.8/10)

1970-1975: Undergraduate program in Physics of Natural School of Patras University BS degree of very good after four years study and final year thesis «Amplifier of High Impedance of 15M Ω for Biological Applications»

5. TRAINING

Summer 1982: Graduate Course “ Theory of elasticity ” (prof. A. Dimarogonas)

Summer 1983: Graduate Course “ theory of viscoelasticity ” (prof. S. Paipetis)

1-4-1985 – 30-9-1985: Researcher at Biomechanics Lab of Free University of Berlin, Berlin,

11-7-1991 - 20-7-1991: Summer school “ Chaotic dynamics: theory and practice ” NATO ASI, Patras Greece

10-1-1994- 12-2-1994: Sabbatical leave for Medical School of the University of Cape Town (Groote Schuur hospital): Training on “Experimental work about the mechanisms of growth of osteoarthritis”.

16-2-1994 – 20-2-1994: Workshop on Dynamical Disease, NATO ASI Montreal, Canada.

23-6-1996- 1-7-1996: 2nd IEEE-EMBS International Summer School on Biomedical Imaging, Berder island, Brittany, France.

1-5-1999- 31-5-1999: Sabbatical leave for Lab. Of Human Dynamics of RIKEN Brain Institute, Saitama, Japan : Training on “Wavelet Toolbox for MEG Signal Analysis ”

1-09-2000- 11-7-2001: Sabbatical leave for Johns Hopkins University, School of Medicine, Department of Biomedical Engineering. During the academic year his activity were focused in

1. Organizing as a team leader the staff that conducted research for the development of new theoretical methods of ECG analysis.
2. Lecturing in the Neuroengineering Class (prof. N. Thakor)
3. Delivering research seminars
4. Giving invited talks in (a) at the Baltimore Chapter of IEEE/Engineering in Medicine and Biology Society, (b) at the Electrical Engineering and Biomedical Department of Drexel University, Philadelphia, PA and (c) IEEE/EURASIP Workshop on Nonlinear Signal and Image Processing.

15-01-2004- 15-4-2004: Sabbatical leave for Florida International University, Department of Biomedical Engineering: “Mathematical Modeling of Cardiovascular Hypertension Mechanism”

1-04-2009- 30-6-2009: Sabbatical leave for University of California San Diego, Department of Bioengineering: Activities:

1. Training on “Bioinformatics Tools and Computational Analysis Methods Applied to Genomic Data”.
2. Invited lecture in Neuroengineering lab of Johns Hopkins University entitled “ Innovative methodologies for signal processing in Brain Machine Interface systems” Johns Hopkins University, School of Medicine, Department of Biomedical Engineering.

01-01-2010- 30-06-2010: Sabbatical leave for Johns Hopkins University, School of Medicine, Department of Biomedical Engineering. During the period of stay his activities were in

1. Organizing as a team leader the researchers who conducted research for the use of ECoG as tool to drive on line a Brain Machine Interface System
2. Giving a talk as invited speaker in the 2010 Neural Interfaces Conference BEYOND BMI WORKSHOP June 19th, 2010 Long Beach, CA,USA
3. Giving a talk in University of Chicago Center for Integrative Neuroscience and Neuroengineering Research (CINNR) University of Chicago entitled «EEG and ECoG as Tools to Study the Dynamics of Brain Synchronization»

PART B: RESEARCH ACTIVITIES

1. DESCRIPTION

The research group of Biomedical Signal Processing and Analysis Laboratory (BIOLAB) of the Department of Medical Physics, University of Patras (GR), led by Professor A. Bezerianos, is internationally recognized for its research on biomedical signal processing and analysis, and is at the forefront in the study of human systems multiscale complexity dynamics, with a definite direction towards clinical and diagnostic applications.

In recent years the BIOLAB is involved in the investigation of the emerging nonlinear dynamics in the fields of neuroengineering, neuroinformatics and neuroscience by novel methods and models, such as the application of the wavelet transform, synchronization and information theory in the study of the complexity of human brain phenomena.

The current research activities of the lab are focused on the development of advanced methods of estimating multi- scale cortical brain activity (SUA - MUA - LFP - EEG) and connectivity among neuronal assemblies, which are important for understanding the complex dynamics across different organized areas of the brain. Our studies of interactions (i.e. in the form of coherence, statistical interdependencies, mutual information, linear and nonlinear phase synchronization analysis, partial coherence and directed transfer function) among neuronal ensembles of different areas have allowed us to determine the strength and direction of information flow across these brain regions.

New experimental and computational techniques have been developed showing the relationship of brain signals to visual sensory, perceptual and cognitive phenomena they represent and motor actions they tend to generate. The analysis and reproduction of these brain signals can be used to diagnose or monitor patients with acute or chronic neurological disorders and assist patients with neuromuscular deficits to express their thought and will. This activity requires the installation of a communication technology between computer and brain (brain- computer interface) that accomplishes the measurement of brain signals and interprets them to their use for supporting people with disabilities and for other clinical applications and therapeutic interventions.

BIOLAB is in essence a software engineering (Neurosoft) lab, specialized in advanced signal processing and analysis methods and techniques. It generates not only the mathematical ideas and formalisms of novel signal processing methodologies but is also specialized in the application of these solutions, formulations, algorithms and techniques in the analysis of 1- D (i.e. neuroelectric brain signals, i.e. EEG, cardiomyoelectric signals, i.e. ECG, etc.) and 2- D (i.e. medical imaging, microarray genomic and proteomic signals, etc) and multi- D (multivariate data analysis, high dimensional biomedical imaging, etc) biosignals for the purpose of developing new biomedical technologies employed in the clinical diagnosis, monitoring, prognosis, intervention and applied therapeutics of human patients.

BIOLAB provides different data preprocessing methodologies for denoising as well and artifact removal techniques, which are very useful in the case of the usually heavily contaminated experimentally recorded biosignals.

Moreover the theoretical work and expertise of BIOLAB comprises linear and nonlinear methodologies in signal analysis and modeling of the underlying physiological & electrophysiological processes. Computational intelligence, linear and nonlinear filter algorithms, artificial neural network (ANN) applications such as multilayered feedforward and recurrent neural networks, support vector machines, self- organizing maps, fuzzy- logic, etc and various techniques of statistical signal processing are only some of the tools explored and employed for biosignal analysis purposes.

Another growing field of applications of our computational methodologies is Systems Biology and Bioinformatics, where methods and techniques of computational intelligence

and more specifically neuronal networks have been used for (1) the investigation of a small number of genes and regulatory gene expression and protein dynamics in the framework of complex networks of interacting genes and gene products, (2) the development of quantitative biology, via the measurement of biological molecular quantities that determine the activity of the above networks, e.g. in terms of amount of gene expression, concentration and action of proteins, and their involvement in metabolic pathways.

Our human resources (HR) network consists of a wide spectrum of professionals, including engineers, physicists, mathematicians, programmers with special training in biosignal processing and biomedical engineering as well as biologists, life scientists and medical doctors with clinical experience and knowledge of biomedical engineering who understand the deeper practical needs, the advantages and limitations of the new technologies, and guide the clinical development of our applications.

2. PUBLICATIONS

Total Number of Publications: Two hundred thirty eight (238)

Peer Review Journals: **Nighty (90)**[Seventy Two (72) in the last ten years]

Books Articles and Conference Proceedings Papers: **One hundred eight (148)** [(One hundred (100) in the last ten years). (Full Catalog in Part C).

Summary of Harzing's Publish or Perish Author Impact Analysis (Query date: 27/10/2011): papers: 225, Citations: 1599 (including selves), h-index:19.

2.1 LIST of TEN TOP PUBLICATIOSEN AND THEIR CITATIONS (Source : Harzing Publish or Perish)

1. **Connectivity analysis as a novel approach to motor decoding for prosthesis control** (2011) H. Benz, H. Zhang, A. Bezerianos, S. Acharya, N.Crone, X. Zheng, and N.Thakor IEEE TBME (In press)

2. **Dynamic Gene Network Reconstruction from Gene Expression Data in Mice after Influenza A (h1N1) infection** (2011), K. Dimitrakopoulou, C. Tsibouris, G. Papadopoulos, C. Pommerenke, W. Esther, K. Sgarbas, K. Shuchart, A. Bezerianos . J. Clinical Bioinformatics (In press)

3. **Computational models reconstruct gene regulatory networks** (2008) Bezerianos, A., Maraziotis, I.A. *Molecular BioSystems* 4 (10), pp. 993-1000 (**40 citations**) (highlight paper)

Nonextensive Entropy Measure of EEG Following Brain Asphyxic Injury

S. Tong, A. Bezerianos, J. Paul, Y. Zhu, N. Thakor

PHYSICA A 305 (3-4): 619-628 MAR 15 20024. **Growing functional modules from a seed protein via integration of protein interaction and gene expression data** (2007) Maraziotis, I.A., Dimitrakopoulou, K., Bezerianos, A. *BMC Bioinformatics* 8, art. no. 408 (**21 citations**)

5. **Ischemia detection with a self-organizing map supplemented by supervised learning** (2005) Papadimitriou, S., Mavroudi, S., Vladutu, L., Bezerianos, A. *IEEE Transactions on Neural Networks* 12 (3), pp. 503-515 (**49 citations**)

6. **SAR image denoising via Bayesian wavelet shrinkage based on heavy tailed modeling** (2003). A. Achim, P. Tsakalides, A. Bezerianos, *Geoscience and Remote Sensing*, 41(8): pp 1773-1784 (**171 citations**)

7. **Time-dependent entropy estimation of EEG rhythm changes following brain ischemia.** Bezerianos, A., Tong, S., Thakor, N. (2003) *Annals of Biomedical Engineering* 31 (2), pp. 221-232 (**58 citations**)

8. **Identification of coupling direction: Application to cardiorespiratory interaction** (2002) Rosenblum, M.G., Cimponeriu, L., Bezerianos, A., Patzak, A., Mrowka, R. (2002) *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics* 65 (4), art. no. 041909, pp. 041909/1-041909/11 (**142 citations**)

9.. **Novel Bayesian multiscale method for speckle removal in medical ultrasound images,** Achim, A., Bezerianos, A., Tsakalides, P. (2001) *IEEE Transactions on Medical Imaging* 20 (8), pp. 772-783 (**246 citations**)

10. **Nonlinear time series analysis of electrocardiograms** A. Bezerianos, T. Bountis, G. Papaioannou, and P. Polydoropoulos *Chaos*, Vol. 5 (1): 95-101, 1995 ((**37 citations**))

3. FUNDING

His research has been funded by Greek (GSRT, National Health System, Industry), European (FPs of European Union) and international (NATO, NIH, NSF, DARPA and RIKEN) sources through National, European and international programs.

The most significant are the following:

2000-2004: Study of Transient Evoked Potentials NIH Grant NS24282 funded with 1.592.000\$ (PI Nitish Thakor)

2002-2010: Rising 200.000€ funding for the International Summer School on Emerging Technologies in Biomedicine (PI A. Bezerianos)

2003-2005: Discovery of Gene regulatory Networks with Computational Intelligence and Data Mining techniques from the whole Genome Data EPEAEK, HERAKLEITOS program (B. 238.019), 78.000€ (PI Tasos Bezerianos)

2003-2008: Consequences of Cardiac Arrest: Brain Injury NIH Grant HL7156; 2.400.000\$ (PI Nitish Thakor)

2004-2008. POSTGENOMIC SIGNALS: Processing, Analysis, and Statistics GSRT PENED program 013, 191.000€ (PI T. Bezerianos).

2005-2006: Brain Computer Interface based on Brain Rhythms EPEAEK II PYTHAGORAS program **B795.017, 80.000€**, (PI Tasos Bezerianos)

2009-2014: Revolutionary Prosthesis 2009 Defense Advanced Project and Research Agency (DARPA) - contract N66001-06-C-8005 (PI S. Harshbarger)

2010-2013: Analysis and Modeling of Biological networks with data from Wide Scale Molecular Biology Experiments EPEAEK, HERAKLEITOS II program 45.000€ (PI A. Bezerianos)

2010-2014: European systems genetics network for the study of complex genetic human diseases using mouse genetic reference populations (SYSGENET) COST Action BM0901, 100.000€/y (PI K. Schughart).

2011-2014: “Mathematical Modeling of Complex Systems with Applications to Biomedicine, Physics and the Technology of Materials” 600.000€ (PI T. Bountis, Co PI A. Bezerianos).

2011-2014: “Development of Systems Biology and Bioinformatics Tools to Study the Dynamics of Cell Aging” 600.000€ (PI T. Bezerianos)

4. COLLABORATIONS

He has developed lasting for many years and fruitful cooperation on research projects and joint publications with the following universities and institutes in Japan, America and Europe:

1. Department of Physics, University of Potsdam, Postdam, Germany (prof. M. Rosenblum)
2. Department Biomedical Engineering, School of Medicine, The Johns Hopkins University, Baltimore MD, USA (Prof. Nitish Thakor)
3. Human Brain Dynamics Lab, Brain Sciences Institute (RIKEN), Saitama, Japan (Dr Andreas Ioannides)
4. Department of Biometry/Epidemiology, Medical University of S. Carolina, Charleston SC, USA (Prof. Frank Starmer)
5. Department of Neurology, Clinical Neurophysiology Lab, SUNY, New York, NY, USA (Prof. Ivan Bodis Wollner)
6. Department of Electrotechnics, Technical University of Bucharest, Bucharest, Romania (Prof. Paul Cristea).
7. Department of Biomedical Engineering, Florida International University, Miami, FL, USA.

8. Dept. of Infection Genetics Helmholtz Centre for Infection Research & University of Veterinary Medicine Hannover, Braunschweig Germany (Prof. Dr. Klaus Schughart).
9. Department of Clinical Sciences and Bioimaging and ITAB, University of Chieti, Chieti, Italy (prof. V. Pizella)

5. PATENTS

1. N.Thakor, A.Bezerianos, F.Al Hatib, Hasan Al Nashash, J. Paul, D. Sherman, S. Tong and S. Venkatesha (2007) “**Apparatus and Methods for Brain Rhythms Analysis**” US patent No 7299088 (Submitted by Johns Hopkins Patent Office).
2. A. Bezerianos, P. Papathanasopoulos (1991) «**Programmable by Microprocessor Optical Digital Pattern Generator for Visual System Stimulation** » Industrial Property Organization, Greece No 9001000707

6. CARRIER OF EX-Ph.D. STUDENTS

Students received their PhD under the supervision of Tasos Bezerianos are now **(1) Professors** (N. Laskaris, (University of Thessaloniki, Greece), S. Tong (Jiao Tong University , Sanghai , China) , A. Achim (University of Bristol, UK), M. Popescu (Hoglund Brain Imaging Center, Kansas Medical Center, Kansas, USA and S. Papadimitriou ATEI Kavalas, Greece)), **(2) Post Doctoral Researchers in USA** (A. Kapela (Florida International University), A. Dragomir (Huston University), **(3) Post Doctoral Researchers in Europe** (L. Moraru (Jena University, Germany), Hugues Fontenelle (Oslo University Hospital, Norway) and M. Stavrinou (Oslo University and Medical School, Norway) **(4) Post Doctoral Researchers in Greece** (A. Tzelepi (National Technical University of Athens, S. Mavroudi (ATEI Patras), and P. Bougioukos, University of Patras) and **(5) High Ranked Employee** (A. Cimponeriu, ERICSSON SA)

PART C: HONORS AND AWARDS

1. EDITORIAL

2005-present: Associate Editor of IEEE Transactions on Neural Systems and Rehabilitation.

2010- present: Associate Editor of Annals of Biomedical Engineering

2006-2010: Associate Editor of IEEE EMBS Annual conference

2011: Associate Editor of IEEE Neural Engineering Biannual conference

2. REVIEWER IN JOURNAL AND GRANTS

Reviewer in over 25 international journals (not listed)

External Reviewer in the fields of Neuroengineering and Bioengineering of Grant proposal in:

1. 6th and 7th Framework Programs of European Commission, (European Union)
2. Research Promotion Foundation (Cyprus),
3. Natural Sciences and Engineering Research, (Canada),
4. General Secretariat and Technology of Greece (GSRT)
5. Hellenic State Scholarship Foundation (IKY)

3. ORGANIZING CONFERENCES

Founder and Chairman of The International Summer School on Emerging Technologies in Biomedicine (2002-present)(<http://heart.med.upatras.gr/school2012>). Program committee member and reviewer in numerous international conferences (not listed).

4. INVITED SPEAKER (most recent and significant)

1. *Information Processing of Brain Signals*. Baltimore Chapter of IEEE/Engineering in Medicine and Biology Society, May 2001.
2. *The revolution in Biomedicine and the transformation in Biomedical Research. The experience of Patras Biosignal Processing group*. The First UAE International Conference on Biological and Medical Physics 27-30 March 2005, Al Ain UAE
3. *Genomic Proteomic and Electrical Brain Signals: Integration towards the Multiscale Functional Monitoring and CNS Pathology* 6th IEEE-EMBS International Summer School, *School on Biomedical Signal Processing* 10-17 July 2007, Certosa di Pontignano, Siena, Italy
4. *Investigation of Protein-Protein Networks Complexity (Systems Biology and Bioinformatics Project)*. International Conference NONLINEAR SCIENCE AND COMPLEXITY, Pescara, 28-31 July 2009
5. *EEG and ECoG as Tools to Study the Dynamics of Brain Synchronization*. 2010 Neural Interfaces Conference BEYOND BMI WORKSHOP June 19th, 2010 Long Beach, CA, USA
6. *Computational Intelligence for Inferring Network Models from Genomics and Proteomics Data* 2nd International Workshop on Genomic Signal Processing Bucharest, ROMANIA, June 27-28, 2011

5. EXTERNAL REFEREE for Academic promotion

Department of Electrical Engineering, University of Huston, TX, USA (2008) (ass. prof. G. Zouridakis)

Med-X Research Institute, Shanghai Jiao Tong University, China (2008) (ass. Prof. S. Tong)

IEEE EMBS Technical Award for Outstanding Achievements in Neuroengineering (2010) (Dr N. Thakor)

6. AWARDS

State Scholarship Foundation (SSF of Greece) award, 1978
3rd Prize, Rossana Deganni Competition, Comp. In Cardiology, 2003
Finalist (in first decade) in IEEE/EMBS Annual Conference 2001
Finalist (in first five papers) in ICANN/ICONIP Annual Conference, 2003
Fulbright Foundation Award (2008)
Finalist (in first decade) in IEEE/EMBS Annual Conference 2010
Senior member of IEEE EMBS 2008

7. MEMEBR OF SCIENTIFIC SOCIETIES

- Hellenic Physicists Association (ΕΕΦ)
- Hellenic Society on Biomedical Engineering (ΕΛΕΒΙΤ).
- Institute of Electrical and Electronics Engineers, Engineering in Medicine and Biology Society (IEEE/EMBS)
- Institute of Electrical and Electronics Engineers, Signal Processing Society (IEE/SPS)
- Society of American Medical School Faculties

8. INTERNATIONAL COLLABORATIONS

The interdisciplinary of the scientific issues and the specificity that is demanded for the solution of complex biological problems, as well as the research work that has been done and the mobility that characterizes, nowadays, the researchers, have strongly influenced and highly motivated the development of BIOLAB. This is reflected in the fact that the BIOLAB is working as “**LABORATORY WITHOUT WALL**”. As a result today researchers during their Ph.D. are working in foreign universities. BIOLAB has hosted the sabbaticals of Prof. Frank Starmer of MUSC, S. Carolina and L. Iasemidis of Arizona State University from USA and D. Kugiumtzis of Oslo University, NO. The most significant achievement was the bilateral collaboration based in equity and for both sides beneficiary between BIOLAB and other foreign universities. The collaborations that were developed are based on three axes: i) research funding through programs, ii) participation of young researchers iii) common publications In details

8.1 INSTITUTIONS

8.1.1 Period 1992- 2002

1. **Technical University of Bucharest:** His collaboration with the prof. P. Cristea started within the program TEMPUS and is still ongoing. At the Laboratory of Medical Physics students from the Technical University of Bucharest, are doing research, and attend the postgraduate program in Biomedical Engineering.
2. **Laboratory of Human Dynamics of RIKEN** Brain Institute, Saitama, Japan. The Lab. Has funded the visit of Prof Bezerianos in Japan, the development of a complete tool (software with instructions) for the processing and the analysis of the ECG.
3. **State University of New York (SUNY):** The collaboration with the professor Bodis Wollner (Department of Neurology) was developed as part of a research project, funded by NATO. The results were three publications in journals, one book article and one conference announcement in the USA.

4. **Medical University of South Carolina (MUSC):** With the professor Frank Starmer he established a close collaboration with joint visits, common research projects, supervision of Ph.D's that led in common publications on international journal and many conference announcements.

6. **University of Potsdam, GERMANY:** Collaboration with the professor of Physics M.Rosenblum. Three papers published from the collaboration funded by IKYDAAD program which received great references from the research community.

8.1.2. Period 2003- today

1. **Florida International University (FIU).** The collaboration with prof S. Tsoukias started in 2004 with a common paper and in the next time was strengthened with a project funded by NIH resulted in three common publications while in Tsoukias's lab my ex-PhD student Adam Kapela is doing and excellent post doc carrier.

2. **University of California San Diego (UCSD).** With the financial support of Fulbright Foundation, Washington DC, USA the collaboration with Bioinformatics and Systems Medicine lab (prof. S. Subramaniam) is running until now with common research in the field of Bioinformatics and Systems Medicine. Next year prof S. Subramanian will be keynote speaker in the forthcoming 6th International Summer School on Emerging Technologies in Biomedicine (<http://biosignal.med.upatras.gr/school2012>)

3. **Helmholtz Centre for Infection Research & University of Veterinary Medicine Hannover.** An excellent collaboration with the Dept. of Infection Genetics (prof. K. Schughart) started in the framework of EU project SYSGENET has laid in several conference publications and one journal publication and is going on with higher expectations.

8.2. COLLABORATION WITH JOHNS HOPKINS SCHOOL OF MEDICINE

The collaboration started with one year sabbatical (2000-01) in Neuroengineering Lab (prof N.Thakor) and it is being continuing up to now. The dynamic personality and restless spirit of Tassos Bezerianos found, in Thakor's lab, fertile ground to develop innovative mathematical theories to apply them in problems of neuroengineering resulting in excellent publications and material which was used successfully in NIH and DARPA grant proposals. The last achievement, during the Sabbatical leave of 2010, was the proposed methodology of Time Varying Dynamic Bayesian Network (TV-DBN) where for the first time the Brain activity, in very short time window, was mapped. This is very promising methodology to overcome the bottle neck of information rate in Brain Machine Interfaces techniques. The collaboration has led up to now to ten journal publications, several conference presentations (two of them awarded) and three invited presentation in international conferences and summer schools.

8.3. NEW APPOINTMENT

From September 2012 Tassos has been appointed as Viting porfessor in National University of Singapore and Senior Principal Research Fellow in Singapore Institute for Neurotechnology (SINAPSE)

PART D : SCIENTIFIC PUBLICATIONS

Total Number of Publications : Two hundred thirty eight (238)

Pear Review Journals: Nighty (90),

Conference Proceedings and Book Chapters:One hundred eight (148).

D1: PERIOD: 2005-2011

Total Number of Publications : One hundred seven (107)

Pear Review Journals: Thirty four (34),

Conference Proceedings and Book Chapters:Seventy three (73)

34. **H. Zhang, H. L. Benz, N.V. Thakor and A. Bezerianos.** Connectivity Mapping of Human Brain by Phase based Evolution Map Approach, **Int Journal of Bifurcation and Chaos, In press 2011**
33. Connectivity analysis as a novel approach to motor decoding for prosthesis control control H. Benz, H. Zhang, A. Bezerianos, S. Acharya, N. Crone, X. Zheng, and N. Thakor. **Transaction on Neural Systems and Rehabilitation Engineering, DOI 10.1109/TNSRE.2011.2175309 , 2011**
- 32. Abnormality segmentation of Brain MRI images via distributed estimation.** E. Zacharaki, A. Bezerianos **IEEE - Transactions on Information Technology in Biomedicine , DOI 10.1109/TITB.2011.2178422 , 2011.**
- 31. Dynamic Gene Network Reconstruction from gene expression data in mice after Influenza A (H1N1) infection** K. Dimitrakopoulou, C. Tsimpouris, G. Papadopoulos, C. Pommerenke, E. Wilk, K. Sgarbas, K. Schughart and A. Bezerianos **Journal of Clinical Bioinformatics 2011, 1:27**
- 30. An intensity – region driven multi- classifier scheme for improving the classification accuracy of proteomic MS- spectra.** P. Bougioukos, D. Glotsos, D. Cavouras, A. Daskalakis, I. Kalatzis, S. Kostopoulos, G. Nikiforidis, A. Bezerianos, **Computer Methods and programs in Biomedicine, Vol. 99 (2), pp 147-153, 2010.**
- 29. Dan Wu, Bezerianos Anastasios, Wei Xiong, Jai Madhok, Xiaofeng Jia, Nitish V. Thakor** Study of the origin of short- and long- latency SSEP during recovery from brain ischemia in a rat model **Neuroscience Letters, 2010 Nov 26;485(3):157- 6129.**
- 28. Guest Editorial: Modeling the Connectivity of the Neural Systems** S. Tong and A. Bezerianos, **IEEE Transaction on Neural System and Rehabilitation, VOL. 17, NO. 3, JUNE 2009 pp 201-202**
- 27. A mathematical model of vasodoreactivity in rat mesenteric arterioles: I. Myoendothelial communication** A. Kapela, A. Bezerianos and N. Tsoukias **Microcirculation, Volume 16, Issue 8, pages 694–713, November 2009**
- 26. Imaging the Cerebral Blood Flow with Enhanced Laser Speckle Contrast Analysis (eLASCA) By Monotonic Point Transformation** P. Miao, M. Li, H. Fontenelle, A. Bezerianos, Y. Qiu, Y. Zhu, **IEEE Transaction on Biomedical Engineering, vol. 56 (4): 1127-1133, 2009.**
- 25 Computational models reconstruct gene regulatory networks** Anastasios Bezerianos, Ioannis A. Maraziotis, **Mol. BioSyst., 2008, 993 DOI: 10.1039/b800446n**
- 24 Effects of Moderate Hypobaric Hypoxia on Evoked Categorical Visuocognitive Responses,** N. Tsarouchas, K. Benedek, A. Bezerianos, G. Benedek, S. Keri **Clinical Neurophysiology, 2008 Jul;119(7):1475-85**
- 23. A mathematical model of Ca²⁺ dynamics in a rat mesenteric smooth muscle cell: response to agonist and nitric oxide stimulation** A. Kapela, A. Bezerianos N. Tsoukias **Journal of Theoretical Biology Volume 253, Issue 2, 21 July 2008, Pages 238-260**
- 22. Brain connectivity in the beta band subserving real and imagined finger movements** M. Stavrinou, A. Bezerianos

International Journal of Bioelectromagnetism In press 2008

21. A new method of identifying cortical connectivity in beta band activity during real and imagined rhythmic finger tapping

L Moraru, A. Bezerianos

International Journal of Bioelectromagnetism In press 2008

20. Inferring brain connectivity subserving real and imagined movements from synchronization analysis

A. Bezerianos, M. Stavrinou, L. Cimponeriu, L. Moraru

International Journal of Bioelectromagnetism Vol. 9 No. 4, pp. 205 - 213, 2007

19. Second Order Features for Laser Speckle Imaging

H. Fontenelle, S. Kostopoulos, P. Miao, S. Tong, A. Bezerianos

International Journal of Bioelectromagnetism Vol. 9, No. 3, pp. 151 - 154, 2007

18. Growing functional modules from a seed protein via integration of protein interaction and gene expression data

I. Maraziotis, K. Dimitrakopoulou A. Bezerianos,

BMC Bioinformatics, 8:408, 2007

17. Comments on “A closed-form nonparametric Bayesian estimator in the wavelet domain of images using an approximate α -stable prior”

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