Maria G Signorini

List of Publications by Year
in descending order

126 papers	2,628 citations	236612 25 h-index	223531 46 g-index
130 all docs	130 docs citations	130 times ranked	2258 citing authors

#	Article	IF	Citations
1	Linear and nonlinear parameters for the analysis of fetal heart rate signal from cardiotocographic recordings. IEEE Transactions on Biomedical Engineering, 2003, 50, 365-374.	2.5	254
2	Time-variant power spectrum analysis for the detection of transient episodes in HRV signal. IEEE Transactions on Biomedical Engineering, 1993, 40, 136-144.	2.5	198
3	Comparison of Entropy-Based Regularity Estimators: Application to the Fetal Heart Rate Signal for the Identification of Fetal Distress. IEEE Transactions on Biomedical Engineering, 2006, 53, 119-125.	2.5	152
4	Nonlinear Indices of Heart Rate Variability in Chronic Heart Failure Patients: Redundancy and Comparative Clinical Value. Journal of Cardiovascular Electrophysiology, 2007, 18, 425-433.	0.8	121
5	Linear and nonlinear dynamics of heart rate variability after acute myocardial infarction with normal and reduced left ventricular ejection fraction. American Journal of Cardiology, 1996, 77, 1283-1288.	0.7	116
6	Effect of a new model of hemodialysis potassium removal on the control of ventricular arrhythmias. Kidney International, 1996, 50, 609-617.	2.6	108
7	Complexity analysis of the fetal heart rate variability: early identification of severe intrauterine growth-restricted fetuses. Medical and Biological Engineering and Computing, 2009, 47, 911-919.	1.6	86
8	Autonomic Changes During Hypnosis: A Heart Rate Variability Power Spectrum Analysis as a Marker of Sympatho-Vagal Balance. International Journal of Clinical and Experimental Hypnosis, 1994, 42, 140-152.	1.1	83
9	Assessing nonlinear properties of heart rate variability from short-term recordings: are these measurements reliable?. Physiological Measurement, 2007, 28, 1067-1077.	1.2	78
10	Effects of slow, controlled breathing on baroreceptor control of heart rate and blood pressure in healthy men. Journal of Hypertension, 2004, 22, 1361-1370.	0.3	61
11	Multifractality and heart rate variability. Chaos, 2009, 19, 028507.	1.0	60
12	Monitoring Fetal Heart Rate during Pregnancy: Contributions from Advanced Signal Processing and Wearable Technology. Computational and Mathematical Methods in Medicine, 2014, 2014, 1-10.	0.7	58
13	Quantitative Assessment of Fetal Well-Being Through CTG Recordings: A New Parameter Based on Phase-Rectified Signal Average. IEEE Journal of Biomedical and Health Informatics, 2013, 17, 959-966.	3.9	56
14	Integrating machine learning techniques and physiology based heart rate features for antepartum fetal monitoring. Computer Methods and Programs in Biomedicine, 2020, 185, 105015.	2.6	50
15	Monitoring fetal maturation—objectives, techniques and indices of autonomic function. Physiological Measurement, 2017, 38, R61-R88.	1.2	45
16	A Model of Two Nonlinear Coupled Oscillators for the Study of Heartbeat Dynamics. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1998, 08, 1975-1985.	0.7	44
17	Long-term invariant parameters obtained from 24-h Holter recordings: A comparison between different analysis techniques. Chaos, 2007, 17, 015108.	1.0	40
18	Spectral analysis of antepartum heart rate variability. Clinical Physics and Physiological Measurement: an Official Journal of the Hospital Physicists' Association, Deutsche Gesellschaft Fur Medizinische Physik and the European Federation of Organisations for Medical Physics, 1989, 10, 27-31.	0.5	39

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19	Comparison between Fetal Heart Rate Standard Parameters and Complexity Indexes for the Identification of Severe Intrauterine Growth Restriction. Methods of Information in Medicine, 2007, 46, 186-190.	0.7	38
20	Enhanced Baroreceptor Control of the Cardiovascular System by Polyunsaturated Fatty Acids in Heart Failure Patients. Journal of the American College of Cardiology, 2006, 48, 1600-1606.	1.2	37
21	Novel heart rate parameters for the assessment of autonomic nervous system function in premature infants. Physiological Measurement, 2016, 37, 1436-1446.	1.2	36
22	Effects of fluid overload on heart rate variability in chronic kidney disease patients on hemodialysis. BMC Nephrology, 2014, 15, 26.	0.8	35
23	Pain threshold changes by skin vibratory stimulation in healthy subjects. Acta Physiologica Scandinavica, 1991, 143, 439-444.	2.3	32
24	Monitoring the autonomic nervous system in the ICU through cardiovascular variability signals. IEEE Engineering in Medicine and Biology Magazine, 1997, 16, 64-75.	1.1	28
25	Non-linear algorithms for processing biological signals. Computer Methods and Programs in Biomedicine, 1996, 51, 51-73.	2.6	26
26	Artificial intelligence models to stratify cardiovascular risk in incident hemodialysis patients. Expert Systems With Applications, 2013, 40, 4679-4686.	4.4	25
27	Baroreflex sensitivity variations in response to propofol anesthesia: comparison between normotensive and hypertensive patients. Journal of Clinical Monitoring and Computing, 2013, 27, 417-426.	0.7	24
28	Prototype of a wearable system for remote fetal monitoring during pregnancy. , 2010, 2010, 5815-8.		23
29	Entropy Information of Cardiorespiratory Dynamics in Neonates during Sleep. Entropy, 2017, 19, 225.	1.1	23
30	Intrapartum cardiotocography with and without computer analysis: a systematic review and meta-analysis of randomized controlled trials. Journal of Maternal-Fetal and Neonatal Medicine, 2020, 33, 2284-2290.	0.7	23
31	Nonlinear analysis of Heart Rate Variability signal for the characterization of Cardiac Heart Failure patients. , 2006, 2006, 3431-4.		21
32	A blind method for the estimation of the Hurst exponent in time series: Theory and application. Chaos, 2008, 18, 033126.	1.0	20
33	Applying nonlinear noise reduction in the analysis of heart rate variability. IEEE Engineering in Medicine and Biology Magazine, 2001, 20, 59-68.	1.1	19
34	The Forgotten Role of Central Volume in Low Frequency Oscillations of Heart Rate Variability. PLoS ONE, 2015, 10, e0120167.	1.1	18
35	Simulation of Heartbeat Dynamics: A Nonlinear Model. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1998, 08, 1725-1731.	0.7	17
36	Telefetalcare: A first prototype of a wearable fetal electrocardiograph. , 2011, 2011, 6899-902.		17

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37	Biomedical Signal Processing and Modeling in Cardiovascular Systems. Critical Reviews in Biomedical Engineering, 2002, 30, 55-84.	0.5	17
38	Short and long term non-linear analysis of RR variability series. Medical Engineering and Physics, 2002, 24, 21-32.	0.8	16
39	Antepartum Fetal Monitoring through a Wearable System and a Mobile Application. Technologies, 2018, 6, 44.	3.0	16
40	Automatic diagnosis of fetal heart rate: comparison of different methodological approaches. , 0, , .		15
41	Evaluation of the Acceleration and Deceleration Phase-Rectified Slope to Detect and Improve IUGR Clinical Management. Computational and Mathematical Methods in Medicine, 2015, 2015, 1-9.	0.7	15
42	A Machine Learning Approach to Monitor the Emergence of Late Intrauterine Growth Restriction. Frontiers in Artificial Intelligence, 2021, 4, 622616.	2.0	15
43	Detection of fetal distress though a support vector machine based on fetal heart rate parameters. , 2005, , .		14
44	Clinical correlates of non-linear indices of heart rate variability in chronic heart failure patients. Biomedizinische Technik, 2006, 51, 220-223.	0.9	14
45	Statistical Long-Term Correlations in Dissociated Cortical Neuron Recordings. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2009, 17, 364-369.	2.7	14
46	Characterization of cardiorespiratory phase synchronization and directionality in late premature and full term infants. Physiological Measurement, 2018, 39, 064001.	1.2	14
47	Power spectrum analysis of the fetal heart rate during noradrenaline infusion and acute hypoxemia in the chronic fetal lamb preparation. International Journal of Bio-medical Computing, 1993, 33, 199-207.	0.5	13
48	Non-linear dynamics and chaotic indices in heart rate variability of normal subjects and heart-transplanted patients. Cardiovascular Research, 1996, 31, 441-446.	1.8	13
49	Complexity analysis of the fetal heart rate for the identification of pathology in fetuses. , 2005, , .		12
50	Effects of Dialysate Glucose Concentration on Heart Rate Variability in Chronic Hemodialysis Patients: Results of a Prospective Randomized Trial. Kidney and Blood Pressure Research, 2011, 34, 334-343.	0.9	12
51	Comparison of data mining techniques applied to fetal heart rate parameters for the early identification of IUGR fetuses. , 2016, 2016, 916-919.		12
52	2CTG2: A new system for the antepartum analysis of fetal heart rate. , 2007, , 781-784.		12
53	Multivariate analysis based on linear and non-linear FHR parameters for the identification of IUGR fetuses. , 2014, 2014, 1868-71.		11
54	Multi-parametric cardiorespiratory analysis in late-preterm, early-term, and full-term infants at birth. Medical and Biological Engineering and Computing, 2019, 57, 99-106.	1.6	11

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55	Fetal heart rate monitoring and neonatal outcome in a population of earlyâ€and lateâ€onset intrauterine growth restriction. Journal of Obstetrics and Gynaecology Research, 2019, 45, 1343-1351.	0.6	11
56	Multiparameter analysis of heart rate variability signal for the investigation of high risk fetuses. , 2009, 2009, 4662-5.		10
57	Detection of Fractal Behavior in Temporal Series of Synaptic Quantal Release Events: A Feasibility Study. Computational Intelligence and Neuroscience, 2012, 2012, 1-9.	1.1	10
58	Ethnic analogies and differences in fetal heart rate variability signal: A retrospective study. Journal of Obstetrics and Gynaecology Research, 2017, 43, 281-290.	0.6	10
59	Transfer Entropy Modeling of Newborn Cardiorespiratory Regulation. Frontiers in Physiology, 2020, 11, 1095.	1.3	10
60	Blood pressure variability and cardiovascular autonomic control during hemodialysis in peripheral vascular disease patients. Physiological Measurement, 2012, 33, 667-678.	1.2	9
61	Telemedicine to Improve Access to Specialist Care in Fetal Heart Rate Monitoring: Analysis of 17 Years of TOCOMAT Network Clinical Activity. Telemedicine Journal and E-Health, 2017, 23, 226-232.	1.6	9
62	HRV Scaling Exponent Identifies Postinfarction Patients Who Might Benefit From Prophylactic Treatment With Amiodarone. IEEE Transactions on Biomedical Engineering, 2006, 53, 103-110.	2.5	8
63	Biomedical Signal and Image Processing. IEEE Pulse, 2011, 2, 41-54.	0.1	8
64	Multi-parametric heart rate analysis in premature babies exposed to sudden infant death syndrome. , 2014, 2014, 6389-92.		8
65	A pre-docking source for the power-law behavior of spontaneous quantal release: application to the analysis of LTP. Frontiers in Cellular Neuroscience, 2015, 9, 44.	1.8	8
66	Time-variant autoregressive spectral estimation in acute ischemic episodes. , 0, , .		7
67	A knowledge based home monitoring system for management and rehabilitation of cardiovascular patients. , 2005, , .		7
68	Advances in monitoring cardiovascular signals. Contribution of nonlinear signal processing. , 2011, 2011, 6568-71.		7
69	Sensor validation for wearable monitoring system in ambulatory monitoring: application to textile electrodes. , 2013, , .		7
70	New indexes from the Fetal Heart Rate analysis for the identification of severe intra uterine growth restricted fetuses. , 2006, 2006, 1458-61.		6
71	IUGR Management: New Perspectives. Journal of Pregnancy, 2014, 2014, 1-8.	1.1	6
72	Feasibility study for the assessment of cardio-respiratory coupling in newborn infants. , 2016, 2016, 5509-5512.		6

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73	Computerised analysis of antepartum foetal heart parameters: New reference ranges. Journal of Obstetrics and Gynaecology, 2017, 37, 296-304.	0.4	6
74	Dataset on linear and non-linear indices for discriminating healthy and IUGR fetuses. Data in Brief, 2020, 29, 105164.	0.5	6
75	How do TTX and AP5 affect the post-recovery neuronal network activity synchronization?. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 3012-5.	0.5	5
76	Estimation of long-term correlations from Fetal Heart Rate variability signal for the identification of pathological fetuses. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 295-8.	0.5	5
77	Linear and non-linear indices of heart rate variability in chronic heart failure: mutual interrelationships and prognostic value. , 2005, , .		4
78	Self-similarity behavior characterization of Fetal Heart Rate signal in healthy and Intrauterine Grow Retardated fetuses. , 2006, 2006, 6157-60.		4
79	Synchronization of neurons in micro-electrode array cultures. European Physical Journal: Special Topics, 2008, 165, 129-135.	1.2	4
80	Intraoperative haemodynamic monitoring: A pilot study on integrated data collection, processing and modelling for extracting vital signs and beyond. , 2010, , .		4
81	Body Composition and Heart Rate Variability to Achieve Dry Weight and Tolerance. Contributions To Nephrology, 2011, 171, 181-186.	1.1	4
82	Effects of propofol anesthesia induction on the relationship between arterial blood pressure and heart rate. , 2012, 2012, 2835-8.		4
83	Complex and Nonlinear Analysis of Heart Rate Variability in the Assessment of Fetal and Neonatal Wellbeing. , 2017, , 427-450.		4
84	Analysis of echographic and heart rate time and frequency domain parameters for the antepartun fetal surveillance. , 2005, , .		3
85	Modeling spiking activity of in vitro neuronal networks through non linear methods. , 2008, 2008, 42-5.		3
86	Reliable nonlinear indices for fetal heart rate variability signal analysis. , 2014, , .		3
87	Influence of sleep state and position on cardio-respiratory regulation in newborn babies. , 2015, 2015, 302-5.		3
88	Integrating environmental sustainability indicators in BIM-based product datasheets. IOP Conference Series: Earth and Environmental Science, 2019, 296, 012028.	0.2	3
89	Cardiotocography for Fetal Monitoring: Technical and Methodological Aspects. , 2021, , 73-97.		3
90	Exploiting the multiplicative nature of fluoroscopic image stochastic noise to enhance calcium imaging recording quality. , 2009, 2009, 3589-92.		2

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91	Temporal and spatial analysis of astrocyte calcium waves. , 2009, 2009, 6038-41.		2
92	Relative Blood Volume Monitoring during hemodialysis in end stage renal disease patients. , 2010, 2010, 5282-5.		2
93	Study of the autonomic response in hemodialysis patients with different fluid overload levels. , 2010, 2010, 3796-9.		2
94	Novel Image Processing Methods for the Analysis of Calcium Dynamics in Glial Cells. IEEE Transactions on Biomedical Engineering, 2011, 58, 2640-2647.	2.5	2
95	Fractal behavior of spontaneous neurotransmitter release: From single-synapse to whole-cell recordings. , 2011, 2011, 3346-9.		2
96	Predictive modeling of cardiovascular complications in incident hemodialysis patients. , 2012, 2012, 3943-6.		2
97	Mining Medical Data to Develop Clinical Decision Making Tools in Hemodialysis. , 2012, , .		2
98	Pregnancy Monitoring. Computational and Mathematical Methods in Medicine, 2014, 2014, 1-2.	0.7	2
99	A Point Process Framework for the Characterization of Sleep States in Early Infancy. , 2019, 2019, 3645-3648.		2
100	Impact of nuchal cord on antenatal and intrapartum foetal heart rate surveillance and perinatal outcome. Journal of Obstetrics and Gynaecology, 2020, 40, 316-323.	0.4	2
101	Entropy: a way to quantify complexity in calcium dynamics. IFMBE Proceedings, 2010, , 343-346.	0.2	2
102	Cardio-respiratory phase locking in newborn and one month infants as a function of sleep state. IFMBE Proceedings, 2018, , 791-794.	0.2	2
103	Lagged Transfer Entropy Analysis to Investigate Cardiorespiratory Regulation in Newborns during Sleep. , 2019, , .		2
104	Chaotic characteristics of heart rate variability signal in newborns. , 1992, , .		1
105	A System for Prevention, Care and Rehabilitation of Subject with Cardiovascular Risk: the Signal Processing Algorithm Library. , 2006, 2006, 5230-3.		1
106	Non linear methods estimating neural network behavior on Micro-Electrode Array technology. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 449-52.	0.5	1
107	A sub-optimal criterion to estimate and compare neural spiking activity on Micro-Electrode Array technology. , 2007, , .		1
108	The estimation of long-term memory characteristics in MEA neuronal culture recordings. , 2008, 2008, 1017-20.		1

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109	Neuronal networks and Self-Organized Criticality: The rising of long-term memory in neuronal ensembles. , 2009, , .		1
110	Study of neuronal networks development from in-vitro recordings: A Granger causality based approach. , 2010, 2010, 4842-5.		1
111	Estimation of baroreflex sensitivity during anesthesia induction with propofol. , 2011, 2011, 3788-91.		1
112	Extraction of fetal heart rate from maternal surface ECG with provisions for multiple pregnancies. , 2012, 2012, 6165-8.		1
113	Advanced Signal Processing Techniques for CTG Analysis. IFMBE Proceedings, 2016, , 1205-1210.	0.2	1
114	Influence of prenatal alcohol and smoke exposure on neonatal vagal tone in response to head-up tilt. , 2018, 2018, 5874-5877.		1
115	New Indices Extracted from Fetal Heart Rate Signal for the Assessment of Fetal Well-Being. IFMBE Proceedings, 2014, , 823-826.	0.2	1
116	The Fetal Heart Rate Variability due to vibro-acustic stimulation: a complexity analysis. IFMBE Proceedings, 2009, , 1353-1356.	0.2	1
117	Time-variant estimation of the spectral parameters of Heart Rate Variability. , 1992, , .		0
118	Alteration of autonomic blood pressure control during hemodialysis in peripheral vascular disease patients. , 2011, 2011, 5511-4.		0
119	Short and Long-Term Heart-Rate Parameters in Newborns with Different Post-menstrual Ages and Sleep Position. IFMBE Proceedings, 2016, , 83-88.	0.2	0
120	An Efficient Algorithm for the Extraction of Fetal ECG from Standard and Non-Standard Multi Abdominal Maternal Leads. , 2019, 2019, 5717-5720.		0
121	Quantification of Acceleration and Deceleration Capacities in Late Fetal Growth Restriction. , 2020, , .		0
122	Investigating the Collective Behavior of Neural Networks. , 2009, , 541-555.		0
123	A new fluorescence image-processing method to visualize Ca2â€‰+â€‰ -release and uptake Endoplasmatic Reticulum microdomains in cultured glia. IFMBE Proceedings, 2010, , 347-350.	0.2	0
124	Mining Medical Data to Develop Clinical Decision Making Tools in Hemodialysis. International Journal of Knowledge Discovery in Bioinformatics, 2011, 2, 1-17.	0.8	0
125	Spectral Analysis of Cardiovascular Variability Signals. Developments in Cardiovascular Medicine, 1998, , 171-183.	0.1	0
126	New indexes from the Fetal Heart Rate analysis for the identification of severe intra uterine growth restricted fetuses. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0