

Balázs Benyó³

List of Publications by Year in descending order

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Version: 2024-02-01

151
papers

1,420
citations

471509

17
h-index

395702

33
g-index

156
all docs

156
docs citations

156
times ranked

1071
citing authors

#	ARTICLE	IF	CITATIONS
1	Reconstructing asynchrony for mechanical ventilation using a hysteresis loop virtual patient model. BioMedical Engineering OnLine, 2022, 21, 16.	2.7	8
2	Estimating Enhanced Endogenous Glucose Production in Intensive Care Unit Patients with Severe Insulin Resistance. Journal of Diabetes Science and Technology, 2021, , 193229682110182.	2.2	4
3	Higher Dimensional Insulin Sensitivity Prediction in Intensive Care. , 2021, , .		0
4	Realistic Kidney Simulation for the Development of Renal Function Diagnostics by Dynamic SPECT Imaging. IFAC-PapersOnLine, 2021, 54, 275-280.	0.9	0
5	Digital Twins in Critical Care: What, When, How, Where, Why?. IFAC-PapersOnLine, 2021, 54, 310-315.	0.9	18
6	Behavior Analysis of Sex based Cohorts Using the Toolset of Artificial Intelligence Based Insulin Sensitivity Prediction Methods. IFAC-PapersOnLine, 2021, 54, 352-357.	0.9	1
7	Identification of Asynchronous Effect via Pressure-Volume Loop Reconstruction in Mechanically Ventilated Breathing Waveforms. IFAC-PapersOnLine, 2021, 54, 186-191.	0.9	1
8	EIT Based Time Constant Analysis to Determine Different Types of Patients in COVID-19 Pneumonia. IFMBE Proceedings, 2021, , 462-469.	0.3	1
9	Detection of Different COVID-19 Pneumonia Phenotypes with Estimated Alveolar Collapse and Overdistention by Bedside Electrical Impedance Tomography. IFAC-PapersOnLine, 2021, 54, 269-274.	0.9	1
10	Electrical Impedance Tomography might be a Practical Tool to Provide Information about COVID-19 Pneumonia Progression. Current Directions in Biomedical Engineering, 2021, 7, 276-278.	0.4	1
11	Clinical application scenarios to handle insulin resistance and high endogenous glucose production for intensive care patients. IFAC-PapersOnLine, 2020, 53, 16299-16304.	0.9	1
12	Model-based PEEP titration versus standard practice in mechanical ventilation: a randomised controlled trial. Trials, 2020, 21, 130.	1.6	22
13	Artificial Intelligence Based Insulin Sensitivity Prediction for Personalized Glycaemic Control in Intensive Care. IFAC-PapersOnLine, 2020, 53, 16335-16340.	0.9	5
14	Finite Element Simulation Based Analysis of Valve-sparing Aortic Root Surgery. IFAC-PapersOnLine, 2020, 53, 16037-16042.	0.9	0
15	Effectiveness of Parameters in Quantifying Root Canal Morphology Change after Instrumentation with the Aid of a Microcomputed Tomography. BioMed Research International, 2019, 2019, 1-6.	1.9	2
16	Editorial: Special Section on Biological Medical Systems. Annual Reviews in Control, 2019, 48, 357-358.	7.9	1
17	Endogenous glucose production parameter estimation for intensive care patients. , 2019, , .		3
18	Intelligent Assisting Tools for Endodontic Treatment. , 2019, , .		0

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19	Glycemic control in the intensive care unit: A control systems perspective. Annual Reviews in Control, 2019, 48, 359-368.	7.9	30
20	In-Silico Analysis of Stochastic Modelling of Human Blood Glucose Regulatory System. , 2019, , .		3
21	3D kernel-density stochastic model for more personalized glycaemic control: development and in-silico validation. BioMedical Engineering OnLine, 2019, 18, 102.	2.7	17
22	The use of multi-energy photon emitters in 3D SPECT reconstruction. Biomedical Signal Processing and Control, 2019, 47, 413-423.	5.7	3
23	Modelling intestinal glucose absorption in premature infants using continuous glucose monitoring data. Computer Methods and Programs in Biomedicine, 2019, 171, 41-51.	4.7	7
24	Generalisability of a Virtual Trials Method for Glycaemic Control in Intensive Care. IEEE Transactions on Biomedical Engineering, 2018, 65, 1543-1553.	4.2	46
25	Unsupervised Classification based Analysis of the Temporal Pattern of Insulin Sensitivity and Modelling Noise of Patient Groups under Tight Glycemic Control. IFAC-PapersOnLine, 2018, 51, 62-67.	0.9	1
26	Modeling and simulation framework of aortic valve for hemodynamic evaluation of aortic root replacement surgery outcomes. IFAC-PapersOnLine, 2018, 51, 258-263.	0.9	3
27	Initial value selection of the model parameters in the curve fitting phase of the dynamic SPECT imaging. IFAC-PapersOnLine, 2018, 51, 241-246.	0.9	1
28	Extension of a Glycaemic Control Medical Application with New Functions and Ergonomic User Interface Elements. , 2018, , .		1
29	Next-generation, personalised, model-based critical care medicine: a state-of-the art review of in silico virtual patient models, methods, and cohorts, and how to validation them. BioMedical Engineering OnLine, 2018, 17, 24.	2.7	143
30	A 3D insulin sensitivity prediction model enables more patient-specific prediction and model-based glycaemic control. Biomedical Signal Processing and Control, 2018, 46, 192-200.	5.7	21
31	A Direct Method for Reconstructing Dynamic SPECT Images. IFAC-PapersOnLine, 2017, 50, 15139-15144.	0.9	2
32	Analysis of Stochastic Noise of Blood-Glucose Dynamics. IFAC-PapersOnLine, 2017, 50, 15157-15162.	0.9	3
33	Estimating the true respiratory mechanics during asynchronous pressure controlled ventilation. Biomedical Signal Processing and Control, 2016, 30, 70-78.	5.7	26
34	Specific validation analysis of stochastic ICING model based estimation of insulin sensitivity profile using clinical data. , 2016, , .		5
35	Safety, efficacy and clinical generalization of the STAR protocol: a retrospective analysis. Annals of Intensive Care, 2016, 6, 24.	4.6	94
36	Generalizability of a Nonlinear Model-based Glycemic Controller. IFAC-PapersOnLine, 2016, 49, 212-217.	0.9	1

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37	The effects of ICU specific nutrition management, as a human factor by using Stochastic Targeted glycaemic control**Research is supported by EU FP7 IRSES, Engineering Technology based Innovation in Medicine, Grant No. 318943 and Hungarian National Scientific Research Foundation, Grant No. K116574. Finally author Stewart was supported by a UC Doctoral Scholarship.. IFAC-PapersOnLine, 2016, 49, 236-242.	0.9	0
38	Blood glucose model for liver transplantation: Alteration of physiological parameters. , 2016, , .		0
39	Stochastic Simulation and Parameter Estimation of the ICING Model**Research is supported by EU FP7 IRSES, Engineering Technology based Innovation in Medicine, Grant No. 318943 and Hungarian National Scientific Research Foundation, Grant No. K116574.. IFAC-PapersOnLine, 2016, 49, 218-223.	0.9	9
40	Safe and secure implementation of the global platform conform infrastructure supporting the customer centric model based ecosystem. , 2016, , .		1
41	Estimation of the insulin sensitivity profile for the stochastic variant of the ICING model. , 2016, , .		4
42	Respiratory mechanics assessment for reverse-triggered breathing cycles using pressure reconstruction. Biomedical Signal Processing and Control, 2016, 23, 1-9.	5.7	28
43	Iterative Interpolative Pressure Reconstruction for Improved Respiratory Mechanics Estimation During Asynchronous Volume Controlled Ventilation. IFMBE Proceedings, 2016, , 133-139.	0.3	4
44	Improved Respiratory Mechanical Estimation During Pressure Controlled Mechanical Ventilation. IFMBE Proceedings, 2016, , 144-149.	0.3	0
45	Modelling Intestinal Glucose Absorption using Continuous Glucose Monitor Data. IFAC-PapersOnLine, 2015, 48, 118-123.	0.9	1
46	Assessing Respiratory Mechanics of Reverse-Triggered Breathing Cycles - Case Study of Two Mechanically Ventilated Patients. IFAC-PapersOnLine, 2015, 48, 505-510.	0.9	4
47	An eigen-analysis of the relationships between model structure, discrete data, measurement error and resulting parameter identification distributions. IFAC-PapersOnLine, 2015, 48, 88-93.	0.9	0
48	Investigation of 3D SPECT Reconstruction with Multi-energy Photon Emitters—This work was supported by the Hungarian Scientific Research Fund (OTKA), Grants No. T80316 and K82066; and EU FP7 IRSES Engineering Technology-based Innovation in Medicine, Grant No.318943.. IFAC-PapersOnLine, 2015, 48, 30-35.	0.9	1
49	Automatic Brain Tumor Segmentation in multispectral MRI volumes using a fuzzy c-means cascade algorithm. , 2015, , .		29
50	The Clinical Utilisation of Respiratory Elastance Software (CURE Soft): a bedside software for real-time respiratory mechanics monitoring and mechanical ventilation management. BioMedical Engineering OnLine, 2014, 13, 140.	2.7	63
51	Model-based estimation of physiological parameters in the reperfusion phase of liver transplantation. , 2014, , .		1
52	Practical estimation method of the optimal scanning protocol for 180° data acquisition in parallel SPECT imaging. Biomedical Signal Processing and Control, 2014, 12, 19-27.	5.7	0
53	Effect of detector blurring on apical region in myocardial perfusion SPECT imaging. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 3593-3598.	0.4	0
54	Variability of Model based Insulin Sensitivity in Liver Transplanted Patients. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 11595-11598.	0.4	0

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55	Optimization of an iterative SPECT reconstruction algorithm utilizing a partial volume effect correction method. , 2013, , .		0
56	Altered blood glucose dynamics during and after anhepatic phase of liver transplantation: A model-based approach. , 2013, , .		4
57	Optical simulation environment with accurate gamma photon penetration model for PET detector blocks. , 2013, , .		0
58	Comparison of Model Based and Clinical Blood Glucose Evolution during and after Anhepatic Status. Biomedizinische Technik, 2013, 58 Suppl 1, .	0.8	4
59	Daily Evolution of Insulin Sensitivity Variability with Respect to Diagnosis in the Critically Ill. PLoS ONE, 2013, 8, e57119.	2.5	13
60	Pilot Study of the SPRINT Glycemic Control Protocol in a Hungarian Medical Intensive Care Unit. Journal of Diabetes Science and Technology, 2012, 6, 1464-1477.	2.2	18
61	Repeatable assessment protocol for electromagnetic trackers. Proceedings of SPIE, 2012, , .	0.8	5
62	Optimal scanning protocol for 180° data acquisition in parallel SPECT imaging. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 12-17.	0.4	0
63	Identification of the Root Canal and Its Centreline from Dental Cone Beam CT Records. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 1-5.	0.4	0
64	Effect of Diagnosis on Variability of ICU Patients in Insulin Sensitivity. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 462-466.	0.4	0
65	Efficient inhomogeneity compensation using fuzzy c-means clustering models. Computer Methods and Programs in Biomedicine, 2012, 108, 80-89.	4.7	36
66	University life in contactless way - NFC use cases in academic environment. , 2012, , .		6
67	Model based analysis of cerebrovascular oscillation using the system Circle of Willis. , 2012, , .		0
68	Event-based patient motion detection and compensation in image-guided robotics. , 2012, , .		0
69	Model-based control algorithms for optimal therapy of high-impact public health diseases. , 2012, , .		6
70	Simulation and control for telerobots in space medicine. Acta Astronautica, 2012, 81, 390-402.	3.2	55
71	Identification of dental root canals and their medial line from micro-CT and cone-beam CT records. BioMedical Engineering OnLine, 2012, 11, 81.	2.7	13
72	Student attendance monitoring at the university using NFC. , 2012, , .		30

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73	Video based urban traffic analysis in signalized intersections. , 2011, , .		0
74	Building a contactless university examination system using NFC. , 2011, , .		5
75	Time delay compensation by fuzzy control in the case of master-slave telesurgery. , 2011, , .		4
76	Services, Use Cases and Future Challenges for Near Field Communication: the StoLPaN Project. , 2011, , .		0
77	Robust Tight Glycaemic Control of ICU patients. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 4995-5000.	0.4	2
78	Quasi Model Based Optimal Control of Type 1 Diabetes Mellitus*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 5012-5017.	0.4	1
79	Cascade Control for Telerobotic Systems Serving Space Medicine*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 3759-3764.	0.4	83
80	Identification of the Dental Root Canal from Micro-CT Records Using 3D Curve Skeleton Extraction. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6184-6189.	0.4	0
81	Nonlinear Control Analysis of an ICU Model for Tight Glycaemic Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 1739-1744.	0.4	0
82	GPU-based acceleration of the MLEM algorithm for SPECT parallel imaging with attenuation correction and compensation for detector response. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6195-6200.	0.4	9
83	Ubiquitous Tracking in the Medical Environment. Procedia Computer Science, 2011, 7, 325-326.	2.0	0
84	Induced L2-norm minimization of glucose-insulin system for Type I diabetic patients. Computer Methods and Programs in Biomedicine, 2011, 102, 105-118.	4.7	60
85	Intensity inhomogeneity compensation and segmentation of MR brain images using hybrid c-means clustering models. Biomedical Signal Processing and Control, 2011, 6, 3-12.	5.7	32
86	A novel model-based PET detector block simulation approach. Biomedical Signal Processing and Control, 2011, 6, 27-33.	5.7	3
87	Towards unified electromagnetic tracking system assessment-static errors. , 2011, 2011, 1905-8.		6
88	Asymptotic output tracking in blood glucose control. A case study. , 2011, , .		9
89	Quasi-Model-Based Control of Type 1 Diabetes Mellitus. Journal of Electrical and Computer Engineering, 2011, 2011, 1-12.	0.9	4
90	An image-guided tool to prevent hospital acquired infections. Proceedings of SPIE, 2011, , .	0.8	0

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91	Optimal Tight Glycaemic Control Supported by Differential Geometric Methods. IFMBE Proceedings, 2011, , 351-354.	0.3	6
92	Information system for road infrastructure booking. Periodica Polytechnica Transportation Engineering, 2011, 39, 55.	1.2	9
93	Using Support Vector Machines to Recognize Changes Characteristic to Obesity in Laboratory Results. IFMBE Proceedings, 2011, , 215-218.	0.3	0
94	Identification of the Root Canal from Dental Micro-CT Records. Lecture Notes in Computer Science, 2011, , 339-346.	1.3	0
95	Machine assisted histogram classification. Journal of Physics: Conference Series, 2010, 219, 022033.	0.4	0
96	Hypersensitivity to Thromboxane Receptor Mediated Cerebral Vasomotion and CBF Oscillations during Acute NO-Deficiency in Rats. PLoS ONE, 2010, 5, e14477.	2.5	13
97	Differences in the laboratory parameters of obese and healthy Hungarian children and their use in automatic classification. , 2010, 2010, 3883-6.		3
98	A skeletal approach to root canal centreline detection from dental micro-ct records. , 2010, , .		0
99	Robust control of type 1 diabetes using $\hat{1/4}$ -synthesis. , 2010, , .		1
100	A novel virtual machine based approach for hosting NFC services on mobile devices. , 2010, , .		3
101	Surgical Case Identification for an Image-Guided Interventional System. , 2010, , .		2
102	Timing calibration method for NanoPET™/CT system. , 2010, , .		1
103	Investigating the Applicability of qALPV Modeling to ICU Models for Glycaemic Control. , 2010, , .		4
104	Validation of Detect2000-Based PetDetSim by Simulated and Measured Light Output of Scintillator Crystal Pins for PET Detectors. IEEE Transactions on Nuclear Science, 2010, 57, 2460-2467.	2.0	14
105	FPGA-based BLAST prefiltering. , 2010, , .		0
106	ANFIS regulated type 1diabetic model for different glucose absorption scenarios. , 2010, , .		2
107	Stery-hand: A new device to support hand disinfection. , 2010, 2010, 4756-9.		7
108	Stochastic approach to error estimation for image-guided robotic systems. , 2010, 2010, 984-7.		6

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109	Security issues of service installation on a multi application NFC environment. , 2010, , .		3
110	A Generalized Approach for NFC Application Development. , 2010, , .		8
111	Acceleration of a model based scatter correction technique for Positron Emission Tomography using high performance computing technique. , 2010, , .		0
112	Modeling and control aspects of long distance telesurgical applications. , 2010, , .		0
113	Robust control techniques and its graphical representation in case of Type I diabetes using Mathematica. , 2010, , .		2
114	New Principles and Adequate Robust Control Methods for Artificial Pancreas. Studies in Computational Intelligence, 2010, , 75-86.	0.9	4
115	Local energy scale map for NanoPETâ„¢/CT system. , 2009, , .		4
116	Detection of the root canal's centerline from dental micro-CT records. , 2009, 2009, 3517-20.		5
117	Spatial accuracy of surgical robots. , 2009, , .		6
118	Business process analysis of NFC-based Services. , 2009, , .		7
119	Soft computing control of Type 1 diabetes described at molecular levels. , 2009, , .		3
120	The StoLPan view of the NFC ecosystem. , 2009, , .		9
121	Application of hybrid c-means clustering models in inhomogeneity compensation and MR brain image segmentation. , 2009, , .		5
122	Force Sensing and Force Control for Surgical Robots. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 401-406.	0.4	37
123	Induced L2-norm Minimization of Glucose-Insulin System for Type I Diabetic Patients. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 55-60.	0.4	3
124	A novel model and an environment for PET detector block simulation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 304-308.	0.4	1
125	Application of Hybrid c-Means Clustering Models in Inhomogeneity Compensation and MR Brain Image Segmentation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 204-209.	0.4	0
126	Medial Axis Detection from Dental Micro-CT Records. IFMBE Proceedings, 2009, , 1688-1691.	0.3	0

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127	Type 1 Diabetes Regulated by ANFIS at Molecular Levels. IFMBE Proceedings, 2009, , 841-844.	0.3	6
128	Robust Blood-Glucose Control of Type I Diabetes Patients Under Intensive Care Using Mathematica. , 2008, , 1210-1219.		1
129	NFC Applications and Business Model of the Ecosystem. , 2007, , .		30
130	The Design of NFC Based Applications. , 2007, , .		11
131	Adaptation of the hypothalamic blood flow to chronic nitric oxide deficiency is independent of vasodilator prostanoids. Brain Research, 2007, 1131, 129-137.	2.2	18
132	Robust Blood-Glucose Control using Mathematica. , 2006, 2006, 451-4.		9
133	MEDICAL IMAGE SEGMENTATION TECHNIQUES FOR VIRTUAL ENDOSCOPY. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 243-248.	0.4	0
134	Classification of Time Series Using Singular Values and Wavelet Subband Analysis with ANN and SVM Classifiers. Journal of Advanced Computational Intelligence and Intelligent Informatics, 2006, 10, 498-503.	0.9	3
135	CHARACTERIZATION OF CEREBRAL BLOOD FLOW OSCILLATIONS USING DIFFERENT CLASSIFICATION METHODS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 214-219.	0.4	2
136	In search of the nature of specific nucleic acid-protein interactions. Acta Physiologica Hungarica, 2005, 92, 1-10.	0.9	1
137	A fully symbolic design and modeling of nonlinear glucose control with Control System Professional Suite (CSPS) of Mathematica. Acta Physiologica Hungarica, 2004, 91, 147-156.	0.9	3
138	Filtering and contrast enhancement on subtracted direct digital angiograms. , 2004, 2004, 1533-6.		1
139	A common periodic table of codons and amino acids. Biochemical and Biophysical Research Communications, 2003, 306, 408-415.	2.1	48
140	An open architecture patient monitoring system using standard technologies. IEEE Transactions on Information Technology in Biomedicine, 2002, 6, 95-98.	3.2	73
141	Computer analysis of physiological systems. , 0, , .		0
142	Biomedical engineering education in Hungary. , 0, , .		3
143	Patient monitoring on industry standard fieldbus. , 0, , .		5
144	Using self-diagnosis to adapt organizational structures. , 0, , .		0

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145	Biomedical engineering education and research activity in Hungary. , 0, , .		0
146	Biomedical engineering education and related research activity in Hungary. , 0, , .		0
147	Characterization of the temporal pattern of cerebral blood flow oscillations. , 0, , .		1
148	Reconstruction of myocardial short-scan SPECT images. , 0, , .		2
149	Novel communication services based on ENUM technology. , 0, , .		0
150	Classification of time series using singular values and wavelet subband analysis with ANN and SVM classifiers. , 0, , .		0
151	Adaptation and learning in software agents. , 0, , .		0