

Christopher G Pretty

List of Publications by Citations

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Version: 2024-04-25

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

120
papers

1,716
citations

21
h-index

38
g-index

132
ext. papers

1,947
ext. citations

4
avg, IF

4.46
L-index

#	Paper	IF	Citations
120	A physiological Intensive Control Insulin-Nutrition-Glucose (ICING) model validated in critically ill patients. <i>Computer Methods and Programs in Biomedicine</i> , 2011 , 102, 192-205	6.9	141
119	Tight glycemic control in critical care--the leading role of insulin sensitivity and patient variability: a review and model-based analysis. <i>Computer Methods and Programs in Biomedicine</i> , 2011 , 102, 156-71	6.9	98
118	Organ failure and tight glycemic control in the SPRINT study. <i>Critical Care</i> , 2010 , 14, R154	10.8	92
117	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. <i>BioMedical Engineering OnLine</i> , 2018 , 17, 24	4.1	90
116	Stochastic targeted (STAR) glycemic control: design, safety, and performance. <i>Journal of Diabetes Science and Technology</i> , 2012 , 6, 102-15	4.1	84
115	Validation of a model-based virtual trials method for tight glycemic control in intensive care. <i>BioMedical Engineering OnLine</i> , 2010 , 9, 84	4.1	80
114	Safety, efficacy and clinical generalization of the STAR protocol: a retrospective analysis. <i>Annals of Intensive Care</i> , 2016 , 6, 24	8.9	79
113	Pilot proof of concept clinical trials of Stochastic Targeted (STAR) glycemic control. <i>Annals of Intensive Care</i> , 2011 , 1, 38	8.9	67
112	Variability of insulin sensitivity during the first 4 days of critical illness: implications for tight glycemic control. <i>Annals of Intensive Care</i> , 2012 , 2, 17	8.9	66
111	The Clinical Utilisation of Respiratory Elastance Software (CURE Soft): a bedside software for real-time respiratory mechanics monitoring and mechanical ventilation management. <i>BioMedical Engineering OnLine</i> , 2014 , 13, 140	4.1	51
110	Time-varying respiratory system elastance: a physiological model for patients who are spontaneously breathing. <i>PLoS ONE</i> , 2015 , 10, e0114847	3.7	46
109	What makes tight glycemic control tight? The impact of variability and nutrition in two clinical studies. <i>Journal of Diabetes Science and Technology</i> , 2010 , 4, 284-98	4.1	46
108	Feasibility of titrating PEEP to minimum elastance for mechanically ventilated patients. <i>Pilot and Feasibility Studies</i> , 2015 , 1, 9	1.9	41
107	Glucose control positively influences patient outcome: A retrospective study. <i>Journal of Critical Care</i> , 2015 , 30, 455-9	4	38
106	Generalisability of a Virtual Trials Method for Glycaemic Control in Intensive Care. <i>IEEE Transactions on Biomedical Engineering</i> , 2018 , 65, 1543-1553	5	38
105	Continuous glucose monitors and the burden of tight glycemic control in critical care: can they cure the time cost?. <i>Journal of Diabetes Science and Technology</i> , 2010 , 4, 625-35	4.1	34
104	Does the achievement of an intermediate glycemic target reduce organ failure and mortality? A post hoc analysis of the Glucontrol trial. <i>Journal of Critical Care</i> , 2014 , 29, 374-9	4	33

103	Pilot study of a model-based approach to blood glucose control in very-low-birthweight neonates. <i>BMC Pediatrics</i> , 2012 , 12, 117	2.6	29
102	Visualisation of time-varying respiratory system elastance in experimental ARDS animal models. <i>BMC Pulmonary Medicine</i> , 2014 , 14, 33	3.5	27
101	Assessing respiratory mechanics using pressure reconstruction method in mechanically ventilated spontaneous breathing patient. <i>Computer Methods and Programs in Biomedicine</i> , 2016 , 130, 175-85	6.9	23
100	Impact of glucocorticoids on insulin resistance in the critically ill. <i>Computer Methods and Programs in Biomedicine</i> , 2011 , 102, 172-80	6.9	22
99	Nutrition delivery of a model-based ICU glycaemic control system. <i>Annals of Intensive Care</i> , 2018 , 8, 4	8.9	20
98	Respiratory mechanics assessment for reverse-triggered breathing cycles using pressure reconstruction. <i>Biomedical Signal Processing and Control</i> , 2016 , 23, 1-9	4.9	18
97	A multi-scale cardiovascular system model can account for the load-dependence of the end-systolic pressure-volume relationship. <i>BioMedical Engineering OnLine</i> , 2013 , 12, 8	4.1	18
96	Continuous stroke volume estimation from aortic pressure using zero dimensional cardiovascular model: proof of concept study from porcine experiments. <i>PLoS ONE</i> , 2014 , 9, e102476	3.7	18
95	Stochastic Model Predictive (STOMP) glycaemic control for the intensive care unit: Development and virtual trial validation. <i>Biomedical Signal Processing and Control</i> , 2015 , 16, 61-67	4.9	17
94	Improved pressure contour analysis for estimating cardiac stroke volume using pulse wave velocity measurement. <i>BioMedical Engineering OnLine</i> , 2017 , 16, 51	4.1	17
93	Hypoglycemia detection in critical care using continuous glucose monitors: an in silico proof of concept analysis. <i>Journal of Diabetes Science and Technology</i> , 2010 , 4, 15-24	4.1	17
92	Impact of variation in patient response on model-based control of glycaemia in critically ill patients. <i>Computer Methods and Programs in Biomedicine</i> , 2013 , 109, 211-9	6.9	16
91	Impact of sensor and measurement timing errors on model-based insulin sensitivity. <i>Computer Methods and Programs in Biomedicine</i> , 2014 , 114, e79-86	6.9	16
90	Reducing the impact of insulin sensitivity variability on glycaemic outcomes using separate stochastic models within the STAR glycaemic protocol. <i>BioMedical Engineering OnLine</i> , 2014 , 13, 43	4.1	15
89	Second pilot trials of the STAR-Liege protocol for tight glycaemic control in critically ill patients. <i>BioMedical Engineering OnLine</i> , 2012 , 11, 58	4.1	15
88	Development of a model-based clinical sepsis biomarker for critically ill patients. <i>Computer Methods and Programs in Biomedicine</i> , 2011 , 102, 149-55	6.9	15
87	Analysing the effects of cold, normal, and warm digits on transmittance pulse oximetry. <i>Biomedical Signal Processing and Control</i> , 2016 , 26, 34-41	4.9	13
86	Minimally invasive, patient specific, beat-by-beat estimation of left ventricular time varying elastance. <i>BioMedical Engineering OnLine</i> , 2017 , 16, 42	4.1	12

85	Evaluation of a model-based hemodynamic monitoring method in a porcine study of septic shock. <i>Computational and Mathematical Methods in Medicine</i> , 2013 , 2013, 505417	2.8	12
84	Silicone phantom validation of breast cancer tumor detection using nominal stiffness identification in digital imaging elasto-tomography (DIET). <i>Biomedical Signal Processing and Control</i> , 2018 , 39, 435-447	4.9	11
83	Mechanical behaviour of tissue mimicking breast phantom materials. <i>Biomedical Physics and Engineering Express</i> , 2017 , 3, 045010	1.5	11
82	Model-based PEEP titration versus standard practice in mechanical ventilation: a randomised controlled trial. <i>Trials</i> , 2020 , 21, 130	2.8	11
81	Mechatronic design and development of a non-holonomic omnidirectional mobile robot for automation of primary production. <i>Cogent Engineering</i> , 2016 , 3, 1250431	1.5	10
80	Effects of Neurally Adjusted Ventilatory Assist (NAVA) levels in non-invasive ventilated patients: titrating NAVA levels with electric diaphragmatic activity and tidal volume matching. <i>BioMedical Engineering OnLine</i> , 2013 , 12, 61	4.1	9
79	Clinically applicable model-based method, for physiologically accurate flow waveform and stroke volume estimation. <i>Computer Methods and Programs in Biomedicine</i> , 2020 , 185, 105125	6.9	9
78	Design and Development of a Wheel-less Snake Robot with Active Stiffness Control for Adaptive Pedal Wave Locomotion. <i>Journal of Bionic Engineering</i> , 2019 , 16, 593-607	2.7	8
77	Evolution of insulin sensitivity and its variability in out-of-hospital cardiac arrest (OHCA) patients treated with hypothermia. <i>Critical Care</i> , 2014 , 18, 586	10.8	8
76	Minimally invasive estimation of ventricular dead space volume through use of Frank-Starling curves. <i>PLoS ONE</i> , 2017 , 12, e0176302	3.7	7
75	Nutrition delivery, workload and performance in a model-based ICU glycaemic control system. <i>Computer Methods and Programs in Biomedicine</i> , 2018 , 166, 9-18	6.9	7
74	Multi-input stochastic prediction of insulin sensitivity for tight glycaemic control using insulin sensitivity and blood glucose data. <i>Computer Methods and Programs in Biomedicine</i> , 2019 , 182, 105043	6.9	6
73	Interpretation of Retrospective BG Measurements. <i>Journal of Diabetes Science and Technology</i> , 2018 , 12, 967-975	4.1	6
72	Accuracy and performance of continuous glucose monitors in athletes. <i>Biomedical Signal Processing and Control</i> , 2017 , 32, 124-129	4.9	6
71	Modelling and simulation of a non-holonomic omnidirectional mobile robot for offline programming and system performance analysis. <i>Simulation Modelling Practice and Theory</i> , 2018 , 87, 155-169	3.9	6
70	Experimental Validation of a Radar-Based Structural Health Monitoring System. <i>IEEE/ASME Transactions on Mechatronics</i> , 2019 , 24, 2064-2072	5.5	5
69	Electrocardiogram R-wave is an Unreliable Indicator of Pulse Wave Initialization. <i>IFAC-PapersOnLine</i> , 2017 , 50, 856-861	0.7	5
68	A C-Peptide-Based Model of Pancreatic Insulin Secretion in Extremely Preterm Neonates in Intensive Care. <i>Journal of Diabetes Science and Technology</i> , 2015 , 10, 111-8	4.1	5

67	Interstitial insulin kinetic parameters for a 2-compartment insulin model with saturable clearance. <i>Computer Methods and Programs in Biomedicine</i> , 2014 , 114, e39-45	6.9	5
66	Mixed-Reality-Enhanced Human-Robot Interaction with an Imitation-Based Mapping Approach for Intuitive Teleoperation of a Robotic Arm-Hand System. <i>Applied Sciences (Switzerland)</i> , 2022 , 12, 4740	2.6	5
65	Incorporating pulse wave velocity into model-based pulse contour analysis method for estimation of cardiac stroke volume. <i>Computer Methods and Programs in Biomedicine</i> , 2020 , 195, 105553	6.9	4
64	Estimation of the insulin sensitivity profile for the stochastic variant of the ICING model 2016 ,		4
63	Brain mass estimation by head circumference and body mass methods in neonatal glycaemic modelling and control. <i>Computer Methods and Programs in Biomedicine</i> , 2014 , 115, 47-54	6.9	4
62	Insulin sensitivity and sepsis score: A correlation between model-based metric and sepsis scoring system in critically ill patients. <i>Biomedical Signal Processing and Control</i> , 2017 , 32, 112-123	4.9	4
61	Assessing Respiratory Mechanics of Reverse-Triggered Breathing Cycles - Case Study of Two Mechanically Ventilated Patients. <i>IFAC-PapersOnLine</i> , 2015 , 48, 505-510	0.7	4
60	2016 ,		4
59	Performance of STAR virtual trials for diabetic and non-diabetic in HTAA intensive care unit 2016 ,		4
58	Accurate end systole detection in dicrotic notch-less arterial pressure waveforms. <i>Journal of Clinical Monitoring and Computing</i> , 2021 , 35, 79-88	2	4
57	Creating smooth SI. B-spline basis function representations of insulin sensitivity. <i>Biomedical Signal Processing and Control</i> , 2018 , 44, 270-278	4.9	4
56	Parameter estimation in a minimal model of cardio-pulmonary interactions. <i>Mathematical Biosciences</i> , 2019 , 313, 81-94	3.9	3
55	Measuring lung mechanics of expiratory tidal breathing with non-invasive breath occlusion. <i>BioMedical Engineering OnLine</i> , 2020 , 19, 32	4.1	3
54	Performance of Stochastic Targeted Blood Glucose Control Protocol by virtual trials in the Malaysian intensive care unit. <i>Computer Methods and Programs in Biomedicine</i> , 2018 , 162, 149-155	6.9	3
53	Loss of Significance and Its Effect on Point Normal Orientation and Cloud Registration. <i>Remote Sensing</i> , 2019 , 11, 1329	5	3
52	Real-Time, Minimally Invasive, Beat-to-Beat Estimation of End-Systolic Volume Using a Modified End-Systolic Pressure-Volume Relation. <i>IFAC-PapersOnLine</i> , 2017 , 50, 5456-5461	0.7	3
51	Nominal Stiffness Identification for Tumor Detection of Women Breast in a Digital Image Elastography (DIET) System. <i>IFAC-PapersOnLine</i> , 2017 , 50, 2031-2036	0.7	3
50	Accuracy and Performance of Continuous Glucose Monitors in Athletes. <i>IFAC-PapersOnLine</i> , 2015 , 48, 1-6	0.7	3

49	Assessment of SOFA Score as a Diagnostic Indicator in Intensive Care Medicine. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012 , 45, 467-472		3
48	Mixed Reality-Enhanced Intuitive Teleoperation with Hybrid Virtual Fixtures for Intelligent Robotic Welding. <i>Applied Sciences (Switzerland)</i> , 2021 , 11, 11280	2.6	3
47	Tube-load model: A clinically applicable pulse contour analysis method for estimation of cardiac stroke volume. <i>Computer Methods and Programs in Biomedicine</i> , 2021 , 204, 106062	6.9	3
46	2016 ,		3
45	Laser doppler vibrometer validation of an optical flow motion tracking algorithm. <i>Biomedical Signal Processing and Control</i> , 2019 , 49, 322-327	4.9	3
44	A Surface Vibration-based Method for Tumor Detection of Women Breast in a DIET System. <i>Procedia Engineering</i> , 2017 , 199, 310-315		2
43	Endogenous glucose production parameter estimation for intensive care patients 2019 ,		2
42	Virtual patient trials of a multi-input stochastic model for tight glycaemic control using insulin sensitivity and blood glucose data. <i>Biomedical Signal Processing and Control</i> , 2020 , 59, 101896	4.9	2
41	Incorporating bolus and infusion pharmacokinetics into the ICING insulin model. <i>Mathematical Biosciences</i> , 2016 , 281, 1-8	3.9	2
40	Analysis of Stochastic Noise of Blood-Glucose Dynamics. <i>IFAC-PapersOnLine</i> , 2017 , 50, 15157-15162	0.7	2
39	Development of an autonomous robotic system for terrain mapping 2017 ,		2
38	Insulin Sensitivity, Its Variability and Glycemic Outcome: A model-based analysis of the difficulty in achieving tight glycemic control in critical care. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2011 , 44, 1745-1750		2
37	Impact of sensor and measurement timing errors on model-based insulin sensitivity. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012 , 45, 224-229		2
36	Corticosteroids and Insulin Resistance in the ICU. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2009 , 42, 25-30		2
35	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.. <i>IFAC-PapersOnLine</i> , 2016 , 49, 218-223	0.7	2
34	Beat-by-Beat Estimation of the Left Ventricular Pressure-Volume Loop Under Clinical Conditions. <i>Annals of Biomedical Engineering</i> , 2018 , 46, 171-185	4.7	2
33	Monitoring peripheral blood flow change using transmission photoplethysmography sensor 2016 ,		1
32	Comment on Kalfon et al.: Tight computerized versus conventional glucose control in the ICU: a randomized controlled trial. <i>Intensive Care Medicine</i> , 2014 , 40, 922	14.5	1

31	Insulin Sensitivity Variability during Hypothermia. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014 , 47, 10162-10167		1
30	Gender and glycaemia: Insulin sensitivity and secretion in premature neonates. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014 , 47, 10168-10173		1
29	A Simple Method to Model a Continuous Glucose Monitoring Signal. <i>IFAC-PapersOnLine</i> , 2017 , 50, 8775-8780		1
28	Impact of metoprolol on insulin sensitivity in the ICU. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2011 , 44, 1763-1767		1
27	Impact of variation in patient response on model-based control of glycaemia in critically ill patients 2010 ,		1
26	Predicting fluid-response, the heart of hemodynamic management: A model-based solution. <i>Computers in Biology and Medicine</i> , 2021 , 139, 104950	7	1
25	Blood Glucose and Sepsis Score on Sepsis Patients Requiring Insulin Therapy. <i>IFMBE Proceedings</i> , 2018 , 265-269	0.2	1
24	Low-cost stimulation resistant electromyography.. <i>HardwareX</i> , 2021 , 9, e00178	2.7	1
23	Generalizability of a Nonlinear Model-based Glycemic Controller. <i>IFAC-PapersOnLine</i> , 2016 , 49, 212-217	0.7	1
22	A portable assist-as-need upper-extremity hybrid exoskeleton for FES-induced muscle fatigue reduction in stroke rehabilitation. <i>BMC Biomedical Engineering</i> , 2019 , 1, 30	4.3	1
21	Unsupervised Classification based Analysis of the Temporal Pattern of Insulin Sensitivity and Modelling Noise of Patient Groups under Tight Glycemic Control. <i>IFAC-PapersOnLine</i> , 2018 , 51, 62-67	0.7	1
20	Estimation of Inspiratory Respiratory Elastance Using Expiratory Data. <i>IFAC-PapersOnLine</i> , 2018 , 51, 204-208	0.7	1
19	A Robust Method of Peak Detection in Noisy PPG Signals Using a Structure of IIR Filters 2018 ,		1
18	Parameters tuning of snake robots sidewinding gait using Bayesian optimization 2018 ,		1
17	Preload & Frank-Starling curves, from textbook to bedside: Clinically applicable non-additionally invasive model-based estimation in pigs. <i>Computers in Biology and Medicine</i> , 2021 , 135, 104627	7	1
16	Data captured using low-cost active electromyography. <i>Data in Brief</i> , 2020 , 29, 105239	1.2	
15	Virtual Trials with b-spline Basis Functions and Stochastic Differential Equations. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014 , 47, 10976-10981		
14	mAGiC DRAGONS: A Protocol for Accurate Glycaemic Control in General Wards. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014 , 47, 10138-10143		

- 13 Sensitivity Analysis for Stiffness Identification Using a DIET Breast Cancer Screening System. *IFAC-PapersOnLine*, **2017**, 50, 2037-2042 0.7
- 12 How should we interpret retrospective blood glucose measurements? Sampling and Interpolation. *IFAC-PapersOnLine*, **2017**, 50, 874-879 0.7
- 11 The Effect of Variable vs Fixed Feeding on Glycaemic Control in the Adult ICU: Virtual Trial Evaluation. *IFAC-PapersOnLine*, **2017**, 50, 880-885 0.7
- 10 Accuracy and optimization of a subcutaneous insulin model for less acute critical care patients. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 4435-8 0.9
- 9 Interstitial insulin kinetic parameters for a 2-compartment insulin model with saturable clearance. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2012**, 45, 230-235
- 8 Tight Glycemic Control - The leading role of insulin sensitivity in determining efficacy and thus outcome. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2009**, 42, 1-6
- 7 The Effect of Glargine as Basal Insulin Support for Recovering Critically Ill and High Dependency Unit Patients: An In Silico Study. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2009**, 42, 49-54
- 6 Development of a Model-Based Clinical Sepsis Biomarker for Critically Ill Patients. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2009**, 42, 13-18
- 5 Software defined QCIF simple profile MPEG-4 for portable devices using dynamically reconfigurable DSP. *Computer Standards and Interfaces*, **2002**, 24, 453-472 3.5
- 4 Non-invasive measurement of tidal breathing lung mechanics using expiratory occlusion. *IFAC-PapersOnLine*, **2020**, 53, 16167-16172 0.7
- 3 Model Iterative Airway Pressure Reconstruction During Mechanical Ventilation Asynchrony: Shapes and Sizes of Reconstruction. *IFMBE Proceedings*, **2018**, 27-33 0.2
- 2 Assessment of Glycemic Control Protocol (STAR) Through Compliance Analysis Amongst Malaysian ICU Patients. *Medical Devices: Evidence and Research*, **2020**, 13, 139-149 1.5
- 1 Blood pressure waveform contour analysis for assessing peripheral resistance changes in sepsis. *BioMedical Engineering OnLine*, **2018**, 17, 171 4.1