

# Michel M R F Struys

## List of Publications by Year in descending order

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105  
papers

6,180  
citations

66343

42  
h-index

74163

75  
g-index

109  
all docs

109  
docs citations

109  
times ranked

4264  
citing authors

#	ARTICLE	IF	CITATIONS
1	Clinical Pharmacokinetics and Pharmacodynamics of Dexmedetomidine. <i>Clinical Pharmacokinetics</i> , 2017, 56, 893-913.	3.5	639
2	Pharmacokinetic models for propofol – defining and illuminating the devil in the detail. <i>British Journal of Anaesthesia</i> , 2009, 103, 26-37.	3.4	375
3	Clinical Pharmacokinetics and Pharmacodynamics of Propofol. <i>Clinical Pharmacokinetics</i> , 2018, 57, 1539-1558.	3.5	321
4	Depth of anaesthesia monitoring: what’s available, what’s validated and what’s next?. <i>British Journal of Anaesthesia</i> , 2006, 97, 85-94.	3.4	244
5	Robust Predictive Control Strategy Applied for Propofol Dosing Using BIS as a Controlled Variable During Anesthesia. <i>IEEE Transactions on Biomedical Engineering</i> , 2008, 55, 2161-2170.	4.2	198
6	Pharmacokinetics in obese patients. <i>Continuing Education in Anaesthesia, Critical Care &amp; Pain</i> , 2004, 4, 152-155.	0.6	187
7	Ability of the Bispectral Index, Autoregressive Modelling with Exogenous Input-derived Auditory Evoked Potentials, and Predicted Propofol Concentrations to Measure Patient Responsiveness during Anesthesia with Propofol and Remifentanyl. <i>Anesthesiology</i> , 2003, 99, 802-812.	2.5	171
8	Pharmacokinetic-pharmacodynamic model for propofol for broad application in anaesthesia and sedation. <i>British Journal of Anaesthesia</i> , 2018, 120, 942-959.	3.4	168
9	Spectral Entropy as an Electroencephalographic Measure of Anesthetic Drug Effect. <i>Anesthesiology</i> , 2004, 101, 34-42.	2.5	153
10	A General Purpose Pharmacokinetic Model for Propofol. <i>Anesthesia and Analgesia</i> , 2014, 118, 1221-1237.	2.2	152
11	Ischemia and Reperfusion Injury in Kidney Transplantation: Relevant Mechanisms in Injury and Repair. <i>Journal of Clinical Medicine</i> , 2020, 9, 253.	2.4	149
12	Influence of obesity on propofol pharmacokinetics: derivation of a pharmacokinetic model. <i>British Journal of Anaesthesia</i> , 2010, 105, 448-456.	3.4	146
13	Changes in a surgical stress index in response to standardized pain stimuli during propofol-remifentanyl infusion. <i>British Journal of Anaesthesia</i> , 2007, 99, 359-367.	3.4	115
14	The Accuracy and Clinical Feasibility of a New Bayesian-Based Closed-Loop Control System for Propofol Administration Using the Bispectral Index as a Controlled Variable. <i>Anesthesia and Analgesia</i> , 2008, 107, 1200-1210.	2.2	111
15	The Performance of Compartmental and Physiologically Based Recirculatory Pharmacokinetic Models for Propofol. <i>Anesthesia and Analgesia</i> , 2010, 111, 368-379.	2.2	108
16	The History of Target-Controlled Infusion. <i>Anesthesia and Analgesia</i> , 2016, 122, 56-69.	2.2	105
17	Performance Evaluation of Two Published Closed-loop Control Systems Using Bispectral Index Monitoring. <i>Anesthesiology</i> , 2004, 100, 640-647.	2.5	101
18	Influence of Administration Rate on Propofol Plasma-Effect Site Equilibration. <i>Anesthesiology</i> , 2007, 107, 386-396.	2.5	99

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19	Spectral entropy measurement of patient responsiveness during propofol and remifentanyl. A comparison with the bispectral index $\hat{\epsilon}$ . <i>British Journal of Anaesthesia</i> , 2004, 93, 645-654.	3.4	96
20	An Allometric Model of Remifentanyl Pharmacokinetics and Pharmacodynamics. <i>Anesthesiology</i> , 2017, 126, 1005-1018.	2.5	87
21	Perioperative SARS-CoV-2 infections increase mortality, pulmonary complications, and thromboembolic events: A Dutch, multicenter, matched-cohort clinical study. <i>Surgery</i> , 2021, 169, 264-274.	1.9	81
22	Development of an Optimized Pharmacokinetic Model of Dexmedetomidine Using Target-controlled Infusion in Healthy Volunteers. <i>Anesthesiology</i> , 2015, 123, 357-367.	2.5	77
23	Early Phase Pharmacokinetics but Not Pharmacodynamics Are Influenced by Propofol Infusion Rate. <i>Anesthesiology</i> , 2009, 111, 805-817.	2.5	73
24	Patient safety during procedural sedation using capnography monitoring: a systematic review and meta-analysis. <i>BMJ Open</i> , 2017, 7, e013402.	1.9	71
25	Closed Loop Anesthesia. <i>Anesthesia and Analgesia</i> , 2011, 112, 516-518.	2.2	70
26	Optimization of desflurane administration in morbidly obese patients: a comparison with sevoflurane using an $\hat{\epsilon}$ -inhalation bolus $\hat{\epsilon}$ ™ technique. <i>British Journal of Anaesthesia</i> , 2003, 91, 638-650.	3.4	67
27	Bilateral Sensory Abnormalities in Patients with Unilateral Neuropathic Pain; A Quantitative Sensory Testing (QST) Study. <i>PLoS ONE</i> , 2012, 7, e37524.	2.5	65
28	Comparison of continuous non-invasive finger arterial pressure monitoring with conventional intermittent automated arm arterial pressure measurement in patients under general anaesthesia. <i>British Journal of Anaesthesia</i> , 2014, 113, 67-74.	3.4	65
29	Time course of inhaled anaesthetic drug delivery using a new multifunctional closed-circuit anaesthesia ventilator. In vitro comparison with a classical anaesthesia machine $\hat{\epsilon}$ . <i>British Journal of Anaesthesia</i> , 2005, 94, 306-317.	3.4	61
30	Dexmedetomidine pharmacokinetic $\hat{\epsilon}$ “pharmacodynamic modelling in healthy volunteers: 1. Influence of arousal on bispectral index and sedation. <i>British Journal of Anaesthesia</i> , 2017, 119, 200-210.	3.4	61
31	Estimation of Optimal Modeling Weights for a Bayesian-Based Closed-Loop System for Propofol Administration Using the Bispectral Index as a Controlled Variable: A Simulation Study. <i>Anesthesia and Analgesia</i> , 2007, 105, 1629-1638.	2.2	60
32	AQUAVAN $\hat{\epsilon}$ ® Injection, a Water-soluble Prodrug of Propofol, as a Bolus Injection: A Phase I Dose-escalation Comparison with DIPRIVAN $\hat{\epsilon}$ ® (Part 2): Pharmacodynamics and Safety: Retracted. <i>Anesthesiology</i> , 2005, 103, 730-743.	2.5	58
33	Vancomycin Pharmacokinetics Throughout Life: Results from a Pooled Population Analysis and Evaluation of Current Dosing Recommendations. <i>Clinical Pharmacokinetics</i> , 2019, 58, 767-780.	3.5	57
34	Optimizing intravenous drug administration by applying pharmacokinetic/pharmacodynamic concepts. <i>British Journal of Anaesthesia</i> , 2011, 107, 38-47.	3.4	55
35	Autonomous Systems in Anesthesia: Where Do We Stand in 2020? A Narrative Review. <i>Anesthesia and Analgesia</i> , 2020, 130, 1120-1132.	2.2	55
36	Nonlinear dynamics of the patient $\hat{\epsilon}$ ™s response to drug effect during general anesthesia. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2015, 20, 914-926.	3.3	54

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37	Response Surface Modeling of the Interaction between Propofol and Sevoflurane. <i>Anesthesiology</i> , 2009, 111, 790-804.	2.5	53
38	Pharmacokinetic and pharmacodynamic interactions in anaesthesia. A review of current knowledge and how it can be used to optimize anaesthetic drug administration. <i>British Journal of Anaesthesia</i> , 2017, 118, 44-57.	3.4	52
39	Electroencephalography and Brain Oxygenation Monitoring in the Perioperative Period. <i>Anesthesia and Analgesia</i> , 2019, 128, 265-277.	2.2	52
40	Dexmedetomidine pharmacodynamics in healthy volunteers: 2. Haemodynamic profile. <i>British Journal of Anaesthesia</i> , 2017, 119, 211-220.	3.4	50
41	Mindfulness, Acceptance and Catastrophizing in Chronic Pain. <i>PLoS ONE</i> , 2014, 9, e87445.	2.5	48
42	Phenylephrine increases cardiac output by raising cardiac preload in patients with anesthesia induced hypotension. <i>Journal of Clinical Monitoring and Computing</i> , 2018, 32, 969-976.	1.6	44
43	Obesity and Allometric Scaling of Pharmacokinetics. <i>Clinical Pharmacokinetics</i> , 2011, 50, 751-753.	3.5	43
44	Oxygen Reserve Index: Validation of a New Variable. <i>Anesthesia and Analgesia</i> , 2019, 129, 409-415.	2.2	43
45	Test of neural inertia in humans during general anaesthesia. <i>British Journal of Anaesthesia</i> , 2018, 120, 525-536.	3.4	41
46	A comparison of propofol-to-BIS post-operative intensive care sedation by means of target controlled infusion, Bayesian-based and predictive control methods: an observational, open-label pilot study. <i>Journal of Clinical Monitoring and Computing</i> , 2019, 33, 675-686.	1.6	41
47	Simulated Drug Administration: An Emerging Tool for Teaching Clinical Pharmacology During Anesthesiology Training. <i>Clinical Pharmacology and Therapeutics</i> , 2008, 84, 170-174.	4.7	38
48	Ten years of the Helsinki Declaration on patient safety in anaesthesiology. <i>European Journal of Anaesthesiology</i> , 2020, 37, 521-610.	1.7	38
49	Neural mass model-based tracking of anesthetic brain states. <i>NeuroImage</i> , 2016, 133, 438-456.	4.2	37
50	Prospective clinical validation of the Eleveld propofol pharmacokinetic-pharmacodynamic model in general anaesthesia. <i>British Journal of Anaesthesia</i> , 2021, 126, 386-394.	3.4	36
51	Inhaled Anesthetics: Environmental Role, Occupational Risk, and Clinical Use. <i>Journal of Clinical Medicine</i> , 2021, 10, 1306.	2.4	35
52	Closed loops in anaesthesia. <i>Bailliere's Best Practice and Research in Clinical Anaesthesiology</i> , 2006, 20, 211-220.	4.0	34
53	Etomidate and its Analogs: A Review of Pharmacokinetics and Pharmacodynamics. <i>Clinical Pharmacokinetics</i> , 2021, 60, 1253-1269.	3.5	34
54	Propofol Reduces the Distribution and Clearance of Midazolam. <i>Anesthesia and Analgesia</i> , 2010, 110, 1597-1606.	2.2	33

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55	Noninvasive pulse pressure variation and stroke volume variation to predict fluid responsiveness at multiple thresholds: a prospective observational study. <i>Canadian Journal of Anaesthesia</i> , 2015, 62, 1153-1160.	1.6	33
56	Drug selection for ambulatory procedural sedation. <i>Current Opinion in Anaesthesiology</i> , 2018, 31, 673-678.	2.0	33
57	Automated Drug Delivery in Anesthesia. <i>Current Anesthesiology Reports</i> , 2013, 3, 18-26.	2.0	30
58	Propofol Breath Monitoring as a Potential Tool to Improve the Prediction of Intraoperative Plasma Concentrations. <i>Clinical Pharmacokinetics</i> , 2016, 55, 849-859.	3.5	30
59	Moderate-to-Deep Sedation Using Target-Controlled Infusions of Propofol and Remifentanyl: Adverse Events and Risk Factors: A Retrospective Cohort Study of 2937 Procedures. <i>Anesthesia and Analgesia</i> , 2020, 131, 1173-1183.	2.2	30
60	Predictive performance of eleven pharmacokinetic models for propofol infusion in children for long-duration anaesthesia. <i>British Journal of Anaesthesia</i> , 2017, 118, 415-423.	3.4	27
61	Feasibility study for the administration of remifentanyl based on the difference between response entropy and state entropy. <i>British Journal of Anaesthesia</i> , 2007, 98, 785-791.	3.4	26
62	Probability to tolerate laryngoscopy and noxious stimulation response index as general indicators of the anaesthetic potency of sevoflurane, propofol, and remifentanyl. <i>British Journal of Anaesthesia</i> , 2016, 116, 624-631.	3.4	26
63	Administration and monitoring of intravenous anesthetics. <i>Current Opinion in Anaesthesiology</i> , 2010, 23, 734-740.	2.0	23
64	Safety and clinical effect of i.v. infusion of cyclopropyl-methoxycarbonyl etomidate (ABP-700), a soft analogue of etomidate, in healthy subjects. <i>British Journal of Anaesthesia</i> , 2018, 120, 1401-1411.	3.4	23
65	A Phase 1, Single-center, Double-blind, Placebo-controlled Study in Healthy Subjects to Assess the Safety, Tolerability, Clinical Effects, and Pharmacokinetics/Pharmacodynamics of Intravenous Cyclopropyl-methoxycarbonylmetomidate (ABP-700) after a Single Ascending Bolus Dose. <i>Anesthesiology</i> , 2017, 127, 20-35.	2.5	22
66	Production of compound A and carbon monoxide in circle systems: an in vitro comparison of two carbon dioxide absorbents*. <i>Anaesthesia</i> , 2004, 59, 584-589.	3.8	21
67	Remifentanyl patient controlled analgesia versus epidural analgesia in labour. A multicentre randomized controlled trial. <i>BMC Pregnancy and Childbirth</i> , 2012, 12, 63.	2.4	20
68	Target-Controlled Continuous Infusion for Antibiotic Dosing: Proof-of-Principle in an In-silico Vancomycin Trial in Intensive Care Unit Patients. <i>Clinical Pharmacokinetics</i> , 2018, 57, 1435-1447.	3.5	20
69	Dexmedetomidine-induced deep sedation mimics non-rapid eye movement stage 3 sleep: large-scale validation using machine learning. <i>Sleep</i> , 2021, 44, .	1.1	17
70	Evaluation of a Propofol and Remifentanyl interaction model for predictive control of anesthesia induction. , 2011, , .		16
71	Model-based drug administration. <i>Current Opinion in Anaesthesiology</i> , 2016, 29, 475-481.	2.0	16
72	Pharmacokinetics and pharmacodynamics of propofol: changes in patients with frontal brain tumours. <i>British Journal of Anaesthesia</i> , 2017, 118, 901-909.	3.4	16

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73	Do we need inhaled anaesthetics to blunt arousal, haemodynamic responses to intubation after i.v. induction with propofol, remifentanyl, rocuronium?. <i>British Journal of Anaesthesia</i> , 2006, 97, 835-841.	3.4	15
74	Novel drug-independent sedation level estimation based on machine learning of quantitative frontal electroencephalogram features in healthy volunteers. <i>British Journal of Anaesthesia</i> , 2019, 123, 479-487.	3.4	15
75	Influence of Remifentanyl on the Control Performance of the Bispectral Index Controlled Bayesian-Based Closed-Loop System for Propofol Administration. <i>Anesthesia and Analgesia</i> , 2020, 130, 1661-1669.	2.2	15
76	Predicting Deep Hypnotic State From Sleep Brain Rhythms Using Deep Learning: A Data-Repurposing Approach. <i>Anesthesia and Analgesia</i> , 2020, 130, 1211-1221.	2.2	15
77	Influence of Bayesian optimization on the performance of propofol target-controlled infusion. <i>British Journal of Anaesthesia</i> , 2017, 119, 918-927.	3.4	14
78	Collateral Ventilation Measurement Using Chartis. <i>Chest</i> , 2019, 156, 984-990.	0.8	12
79	Mechanism-based pharmacodynamic model for propofol haemodynamic effects in healthy volunteers†. <i>British Journal of Anaesthesia</i> , 2022, 128, 806-816.	3.4	11
80	Troubleshooting the rat model of cardiopulmonary bypass: Effects of avoiding blood transfusion on long-term survival, inflammation and organ damage. <i>Journal of Pharmacological and Toxicological Methods</i> , 2013, 67, 82-90.	0.7	10
81	Preemptively and non-preemptively transplanted patients show a comparable hypercoagulable state prior to kidney transplantation compared to living kidney donors. <i>PLoS ONE</i> , 2018, 13, e0200537.	2.5	10
82	General Purpose Pharmacokinetic-Pharmacodynamic Models for Target-Controlled Infusion of Anaesthetic Drugs: A Narrative Review. <i>Journal of Clinical Medicine</i> , 2022, 11, 2487.	2.4	10
83	Cost-reduction analysis of propofol versus sevoflurane: maintenance of anaesthesia for gynaecological surgery using the bispectral index. <i>European Journal of Anaesthesiology</i> , 2002, 19, 727.	1.7	9
84	Hemodynamics and tissue oxygenation during balanced anesthesia with a high antinociceptive contribution: an observational study. <i>Perioperative Medicine (London, England)</i> , 2014, 3, 9.	1.5	8
85	Brain changes due to hypoxia during light anaesthesia can be prevented by deepening anaesthesia; a study in rats. <i>PLoS ONE</i> , 2018, 13, e0193062.	2.5	8
86	Intraoperative Fluid Restriction is Associated with Functional Delayed Graft Function in Living Donor Kidney Transplantation: A Retrospective Cohort Analysis. <i>Journal of Clinical Medicine</i> , 2019, 8, 1587.	2.4	8
87	Target-Controlled Infusion of Cefepime in Critically Ill Patients. <i>Antimicrobial Agents and Chemotherapy</i> , 2019, 64, .	3.2	8
88	Dexmedetomidine Clearance Decreases with Increasing Drug Exposure: Implications for Current Dosing Regimens and Target-controlled Infusion Models Assuming Linear Pharmacokinetics. <i>Anesthesiology</i> , 2022, 136, 279-292.	2.5	7
89	Long-term pressure monitoring with arterial applanation tonometry: A non-invasive alternative during clinical intervention?. <i>Technology and Health Care</i> , 2008, 16, 183-193.	1.2	6
90	Computer-guided normal-low versus normal-high potassium control after cardiac surgery: No impact on atrial fibrillation or atrial flutter. <i>American Heart Journal</i> , 2016, 172, 45-52.	2.7	6

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91	Opioids: refining the perioperative role of God's own medicine. <i>British Journal of Anaesthesia</i> , 2019, 122, e93-e95.	3.4	6
92	Modeling the Effect of Excitation on Depth of Anesthesia Monitoring in Î³-Aminobutyric Acid Type A Receptor Agonist ABP-700. <i>Anesthesiology</i> , 2021, 134, 35-51.	2.5	6
93	Comparison of haemodynamic- and electroencephalographic-monitored effects evoked by four combinations of effect-site concentrations of propofol and remifentanyl, yielding a predicted tolerance to laryngoscopy of 90%. <i>Journal of Clinical Monitoring and Computing</i> , 2021, 35, 815-825.	1.6	5
94	Influence of an "Electroencephalogram-Based" Monitor Choice on the Delay Between the Predicted Propofol Effect-Site Concentration and the Measured Drug Effect. <i>Anesthesia and Analgesia</i> , 2020, 131, 1184-1192.	2.2	5
95	Machine learning in anesthesiology: Detecting adverse events in clinical practice. <i>Health Informatics Journal</i> , 2022, 28, 146045822211128.	2.1	5
96	Depth of Anesthesia Index using Cumulative Power Spectrum. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2007, 2007, 15-8.	0.5	4
97	Improved haemodynamic stability and cerebral tissue oxygenation after induction of anaesthesia with sufentanil compared to remifentanyl: a randomised controlled trial. <i>BMC Anesthesiology</i> , 2020, 20, 258.	1.8	4
98	Environmental Footprint of Anesthesia: More than Inhaled Anesthetics!. <i>Anesthesiology</i> , 2021, 135, 937-939.	2.5	4
99	Bayesian statistics in anesthesia practice: a tutorial for anesthesiologists. <i>Journal of Anesthesia</i> , 2022, 36, 294-302.	1.7	4
100	Resisting neural inertia: an exercise in floccinaucinihilipilification?. <i>British Journal of Anaesthesia</i> , 2021, 126, 31-34.	3.4	2
101	Population Pharmacodynamic Modeling Using the Sigmoid Emax Model: Influence of Inter-individual Variability on the Steepness of the Concentration-Effect Relationship. a Simulation Study. <i>AAPS Journal</i> , 2021, 23, 10.	4.4	2
102	Frontal electroencephalogram based drug, sex, and age independent sedation level prediction using non-linear machine learning algorithms. <i>Journal of Clinical Monitoring and Computing</i> , 2020, , 1.	1.6	2
103	Comment on Morse et al. A Universal Pharmacokinetic Model for Dexmedetomidine in Children and Adults. <i>J. Clin. Med.</i> 2020, 9, 3480. <i>Journal of Clinical Medicine</i> , 2021, 10, 3003.	2.4	1
104	What's New in Intravenous Anaesthesia? New Hypnotics, New Models and New Applications. <i>Journal of Clinical Medicine</i> , 2022, 11, 3493.	2.4	1
105	Recent Advances in Composite AEP/EEG Indices for Estimating Hypnotic Depth during General Anesthesia. , 0, , 535-553.		0