Niranchan Paskaranandavadivel

List of Publications by Year
in descending order

111 papers	1,419 citations	394286 19 h-index	395590 33 g-index
114 all docs	114 docs citations	114 times ranked	508 citing authors

#	ARTICLE	IF	CITATIONS
1	Hyperactive Distal Colonic Motility and Recovery Patterns Following Right Colectomy: A High-Resolution Manometry Study. Diseases of the Colon and Rectum, 2023, 66, 579-590.	0.7	6
2	Quantification of Gastric Slow Wave Velocity Using Bipolar High-Resolution Recordings. IEEE Transactions on Biomedical Engineering, 2022, 69, 1063-1071.	2.5	1
3	Muscle-Specific High-Density Electromyography Arrays for Hand Gesture Classification. IEEE Transactions on Biomedical Engineering, 2022, 69, 1758-1766.	2.5	6
4	High-Resolution Spatiotemporal Quantification of Intestinal Motility With Free-Form Deformation. IEEE Transactions on Biomedical Engineering, 2022, 69, 2077-2086.	2.5	7
5	A framework for the design of a closed-loop gastric pacemaker for treating conduction block. Computer Methods and Programs in Biomedicine, 2022, 216, 106652.	2.6	1
6	Targeted ablation of gastric pacemaker sites to modulate patterns of bioelectrical slow wave activation and propagation in an anesthetized pig model. American Journal of Physiology - Renal Physiology, 2022, 322, G431-G445.	1.6	10
7	Highâ€resolution in vivo monophasic gastric slow waves to quantify activation and recovery profiles. Neurogastroenterology and Motility, 2022, 34, .	1.6	5
8	High-Resolution Colonic Manometry Pressure Profiles Are Similar in Asymptomatic Diverticulosis and Controls. Digestive Diseases and Sciences, 2021, 66, 832-842.	1.1	8
9	A Novel High-Density Electromyography Probe for Evaluating Anorectal Neurophysiology: Design, Human Feasibility Study, and Validation with Trans-Sacral Magnetic Stimulation. Annals of Biomedical Engineering, 2021, 49, 502-514.	1.3	4
10	Effects of magnetogastrography sensor configurations in tracking slow wave propagation. Computers in Biology and Medicine, 2021, 129, 104169.	3.9	7
11	Altered colonic motility is associated with low anterior resection syndrome. Colorectal Disease, 2021, 23, 415-423.	0.7	25
12	ManoMap: an automated system for characterization of colonic propagating contractions recorded by high-resolution manometry. Medical and Biological Engineering and Computing, 2021, 59, 417-429.	1.6	10
13	Transmural recordings of gastrointestinal electrical activity using a spatially-dense microelectrode array. Physiological Measurement, 2021, 42, 035009.	1.2	3
14	Gastric ablation as a novel technique for modulating electrical conduction in the in vivo stomach. American Journal of Physiology - Renal Physiology, 2021, 320, G573-G585.	1.6	15
15	Strategies to Refine Gastric Stimulation and Pacing Protocols: Experimental and Modeling Approaches. Frontiers in Neuroscience, 2021, 15, 645472.	1.4	23
16	A novel mechanism for acute colonic pseudoâ€obstruction revealed by highâ€resolution manometry: A case report. Physiological Reports, 2021, 9, e14950.	0.7	1
17	Design and Validation of a Surface-Contact Electrode for Gastric Pacing and Concurrent Slow-Wave Mapping. IEEE Transactions on Biomedical Engineering, 2021, 68, 2574-2581.	2.5	13
18	The influence of interstitial cells of Cajal loss and aging on slow wave conduction velocity in the human stomach. Physiological Reports, 2021, 8, e14659.	0.7	14

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19	Localized gastric distension disrupts slow-wave entrainment leading to temporary ectopic propagation: a high-resolution electrical mapping study. American Journal of Physiology - Renal Physiology, 2021, 321, G656-G667.	1.6	8
20	Intraoperative serosal extracellular mapping of the human distal colon: a feasibility study. BioMedical Engineering OnLine, 2021, 20, 105.	1.3	2
21	Potential causes of the preoperative increase in the rectosigmoid cyclic motor pattern: A highâ€resolution manometry study. Physiological Reports, 2021, 9, e15091.	0.7	1
22	Reconstruction of stomach geometry using magnetic source localization. , 2021, 2021, 4234-4237.		2
23	Characterization of Slow Wave Activity in Ex-vivo Porcine Small Intestine Segments. , 2021, 2021, 7296-7299.		0
24	Quantification of Gastric Contractions Using MRI with a Natural Contrast Agent. , 2021, 2021, 3601-3604.		2
25	A novel approach for model-based design of gastric pacemakers. Computers in Biology and Medicine, 2020, 116, 103576.	3.9	9
26	High-Density Electromyography Based Control of Robotic Devices: On the Execution of Dexterous Manipulation Tasks. , 2020, , .		5
27	Design and Application of an Inflatable Cuff to Aid High-Resolution Intestinal Slow Wave Recordings *. , 2020, 2020, 3953-3956.		2
28	Trace Mapping: A New Visualization Technique for Analyzing Gastrointestinal High-Resolution Electrical Mapping Data. , 2020, 2020, 5212-5215.		1
29	Transmural Temperature Monitoring to Quantify Thermal Conduction And Lesion Formation During Gastric Ablation, an Emerging Therapy for Gastric Dysrhythmias. , 2020, 2020, 5259-5262.		1
30	Computational Reconstruction of 3D Stomach Geometry using Magnetic Field Source Localization. , 2020, 2020, 2376.		1
31	Detection of Slow Wave Propagation Direction Using Bipolar High-Resolution Recordings. , 2020, 2020, 837-840.		1
32	Bioelectrical Signals for the Diagnosis and Therapy of Functional Gastrointestinal Disorders. Applied Sciences (Switzerland), 2020, 10, 8102.	1.3	14
33	A V-Net Based Deep Learning Model for Segmentation and Classification of Histological Images of Gastric Ablation. , 2020, 2020, 1436-1439.		2
34	Simulation-based Analysis of Magnetogastrography Sensor Configurations for Characterizing Gastric Slow Wave Dysrhythmias*. , 2020, 2020, 2512-2515.		1
35	A Spatially-dense Microfabricated Photolithographic Electrode Array for Gastrointestinal Slow Wave Recordings *. , 2020, 2020, 3957-3960.		0
36	High-Resolution Mapping of Intestinal Spike Bursts and Motility. , 2020, 2020, 1779-1782.		3

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37	Continuum Based Bioelectrical Simulations using Structurally Realistic Gastrointestinal Pacemaker Cell Networks. , 2020, 2020, 2483-2486.		2
38	Electroceutical Approaches for Gastroparesis. , 2020, , 967-982.		9
39	Effects of Electrode Diameter and Contact Material on Signal Morphology of Gastric Bioelectrical Slow Wave Recordings. Annals of Biomedical Engineering, 2020, 48, 1407-1418.	1.3	7
40	Highâ€resolution optical mapping of gastric slow wave propagation. Neurogastroenterology and Motility, 2019, 31, e13449.	1.6	16
41	Development and feasibility of an ambulatory acquisition system for fiberâ€optic highâ€resolution colonic manometry. Neurogastroenterology and Motility, 2019, 31, e13704.	1.6	6
42	Dynamic slowâ€wave interactions in the rabbit small intestine defined using highâ€resolution mapping. Neurogastroenterology and Motility, 2019, 31, e13670.	1.6	15
43	Source localization for gastric electrical activity using simulated magnetogastrographic data. , 2019, 2019, 2336-2339.		1
44	High-resolution Mapping of Hyperglycemia-induced Gastric Slow Wave Dysrhythmias. Journal of Neurogastroenterology and Motility, 2019, 25, 276-285.	0.8	17
45	A Formal Approach for Scalable Simulation of Gastric ICC Electrophysiology. IEEE Transactions on Biomedical Engineering, 2019, 66, 3320-3329.	2.5	11
46	A Novel Gastric Pacing Device to Modulate Slow Waves and Assessment by High-Resolution Mapping. IEEE Transactions on Biomedical Engineering, 2019, 66, 2823-2830.	2.5	39
47	Multi-day, multi-sensor ambulatory monitoring of gastric electrical activity. Physiological Measurement, 2019, 40, 025011.	1.2	16
48	Methods for Visualization of Gastric Endoscopic Mapping Data From Three-Dimensional, Non-Uniform Electrode Arrays. , 2019, 2019, 2222-2225.		1
49	Feasibility of High-Resolution Electrical Mapping for Characterizing Conduction Blocks Created by Gastric Ablation. , 2019, 2019, 170-173.		9
50	A Framework for Spatiotemporal Analysis of Gastrointestinal Spike Burst Propagation. , 2019, 2019, 4619-4622.		4
51	Quantification of Dynamic Gastric Slow Wave Activity using Recurrence Plots. , 2019, 2019, 729-732.		1
52	Detection of Monophasic Slow-wave Activation Phase Using Wavelet Decomposition. , 2019, 2019, 7157-7160.		2
53	Methods for High-Resolution Electrical Mapping in the Gastrointestinal Tract. IEEE Reviews in Biomedical Engineering, 2019, 12, 287-302.	13.1	51
54	Intsy: a low-cost, open-source, wireless multi-channel bioamplifier system. Physiological Measurement, 2018, 39, 035008.	1.2	13

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55	A Miniature Configurable Wireless System for Recording Gastric Electrophysiological Activity and Delivering High-Energy Electrical Stimulation. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2018, 8, 221-229.	2.7	34
56	Relationships between gastric slow wave frequency, velocity, and extracellular amplitude studied by a joint experimentalâ€theoretical approach. Neurogastroenterology and Motility, 2018, 30, e13152.	1.6	17
57	Improved Visualization of Gastrointestinal Slow Wave Propagation Using a Novel Wavefront-Orientation Interpolation Technique. IEEE Transactions on Biomedical Engineering, 2018, 65, 319-326.	2.5	3
58	Progress in Mathematical Modeling of Gastrointestinal Slow Wave Abnormalities. Frontiers in Physiology, 2018, 8, 1136.	1.3	30
59	A novel retractable laparoscopic device for mapping gastrointestinal slow wave propagation patterns. Surgical Endoscopy and Other Interventional Techniques, 2017, 31, 477-486.	1.3	15
60	Time-Delay Mapping of High-Resolution Gastric Slow-Wave Activity. IEEE Transactions on Biomedical Engineering, 2017, 64, 166-172.	2.5	14
61	Highâ€resolution electrical mapping of porcine gastric slowâ€wave propagation from the mucosal surface. Neurogastroenterology and Motility, 2017, 29, e13010.	1.6	37
62	Reply. Experimental Physiology, 2017, 102, 135-135.	0.9	0
63	High-resolution mapping of gastric slow-wave recovery profiles: biophysical model, methodology, and demonstration of applications. American Journal of Physiology - Renal Physiology, 2017, 313, G265-G276.	1.6	20
64	Relationships between Slow Wave Frequency, Conduction Velocity and Amplitude in the Human Stomach. Gastroenterology, 2017, 152, S518.	0.6	0
65	Patterns of Abnormal Gastric Pacemaking After Sleeve Gastrectomy Defined by Laparoscopic High-Resolution Electrical Mapping. Obesity Surgery, 2017, 27, 1929-1937.	1.1	45
66	Correct techniques for extracellular recordings of electrical activity in gastrointestinal muscle. Nature Reviews Gastroenterology and Hepatology, 2017, 14, 372-372.	8.2	10
67	Ambulatory gastric mucosal slow wave recording for chronic experimental studies. , 2017, 2017, 755-758.		2
68	Design and application of a novel gastric pacemaker. , 2017, 2017, 2181-2184.		4
69	Suppression of ventilation artifacts for gastrointestinal slow wave recordings. , 2017, 2017, 2769-2772.		14
70	Acute Slow Wave Responses to High-Frequency Gastric Electrical Stimulation in Patients With Gastroparesis Defined by High-Resolution Mapping. Neuromodulation, 2016, 19, 864-871.	0.4	29
71	Simultaneous anterior and posterior serosal mapping of gastric slowâ€wave dysrhythmias induced by vasopressin. Experimental Physiology, 2016, 101, 1206-1217.	0.9	15
72	Iterative Covariance-Based Removal of Time-Synchronous Artifacts: Application to Gastrointestinal Electrical Recordings. IEEE Transactions on Biomedical Engineering, 2016, 63, 2262-2272.	2.5	5

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73	Mo1587 Gastric Ablation As a Novel Therapeutic Technique for Modulating Gastric Slow Wave Activity. Gastroenterology, 2016, 150, S721.	0.6	1
74	Sa1684 Quantification of the Anisotropic Ratio of Gastric Tissue Conductivities: Methods and Application. Gastroenterology, 2016, 150, S345.	0.6	0
75	Mo1588 High-Resolution Mapping of Slow Wave Propagation From the Gastric Mucosa Using Flexible Printed Circuit Electrodes. Gastroenterology, 2016, 150, S721.	0.6	1
76	Functional physiology of the human terminal antrum defined by high-resolution electrical mapping and computational modeling. American Journal of Physiology - Renal Physiology, 2016, 311, G895-G902.	1.6	71
77	The virtual intestine: in silico modeling of small intestinal electrophysiology and motility and the applications. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2016, 8, 69-85.	6.6	26
78	Sa1700 Spatiotemporal and Morphological Differences in Serosal and Mucosal Electrical Recording of Porcine Colonic Slow Wave. Gastroenterology, 2016, 150, S350-S351.	0.6	0
79	Sa1704 Recovery Phase Mapping of Slow Waves in High-Resolution. Gastroenterology, 2016, 150, S351-S352.	0.6	0
80	Mo1593 A Miniature Wireless Gastric Stimulator for High-Energy Stimulation. Gastroenterology, 2016, 150, S723.	0.6	2
81	A theoretical study of the initiation, maintenance and termination of gastric slow wave re-entry. Mathematical Medicine and Biology, 2015, 32, dqu023.	0.8	19
82	Extending the automated gastrointestinal analysis pipeline: Removal of invalid slow wave marks in gastric serosal recordings. , 2015, 2015, 1938-41.		1
83	Detection of the Recovery Phase of in vivo gastric slow wave recordings. , 2015, 2015, 6094-7.		4
84	Su1867 Simultaneous Anterior and Posterior High-Resolution Mapping of Gastric Dysrhythmias Induced by Vasopressin in Canine. Gastroenterology, 2015, 148, S-538.	0.6	0
85	Determining the efficient inter-electrode distance for high-resolution mapping using a mathematical model of human gastric dysrhythmias. , 2015, 2015, 1448-51.		1
86	A system for automated quantification of cutaneous electrogastrograms. , 2015, 2015, 6098-101.		2
87	Su1425 Effects of High-Frequency Gastric Electrical Stimulation on Slow Wave Activity in Gastroparesis, Evaluated by High-Resolution Mapping. Gastroenterology, 2015, 148, S-506.	0.6	0
88	Su1855 The Frequency-Velocity Correlation of Porcine Gastric Slow Waves Defined Through High-Resolution Entrainment Mapping. Gastroenterology, 2015, 148, S-534-S-535.	0.6	0
89	Su1856 High-Resolution Mapping of Slow Wave Activity in the Terminal Gastric Antrum in Humans. Gastroenterology, 2015, 148, S-535.	0.6	0
90	Su1445 A Finite-State Machine Model for Real-Time Analysis of Gastric Rhythmic Activity. Gastroenterology, 2015, 148, S-513-S-514.	0.6	0

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91	Tu1222 A Multi-Channel Laparoscopic Device for Mapping Gastric Slow Wave Activation Patterns: A Pilot Clinical Trial. Gastroenterology, 2015, 148, S-826.	0.6	1
92	Multiâ€channel wireless mapping of gastrointestinal serosal slow wave propagation. Neurogastroenterology and Motility, 2015, 27, 580-585.	1.6	32
93	An Improved Understanding of Gut Function through High-Resolution Mapping and Multiscale Computational Modeling of the Gastrointestinal Tract. , 2014, , 273-301.		2
94	Su2014 A Multichannel Wireless Mapping System for Monitoring Gastric Slow Wave Propagation. Gastroenterology, 2014, 146, S-523.	0.6	0
95	Automated Classification and Identification of Slow Wave Propagation Patterns in Gastric Dysrhythmia. Annals of Biomedical Engineering, 2014, 42, 177-192.	1.3	16
96	Comparison of filtering methods for extracellular gastric slow wave recordings. Neurogastroenterology and Motility, 2013, 25, 79-83.	1.6	66
97	Quantitative Analysis of Electrical Activity in the Gastrointestinal Tract. Lecture Notes in Computational Vision and Biomechanics, 2013, , 71-93.	0.5	0
98	Circumferential and functional reâ€entry of in vivo slowâ€wave activity in the porcine small intestine. Neurogastroenterology and Motility, 2013, 25, e304-14.	1.6	47
99	The bioelectrical basis and validity of gastrointestinal extracellular slow wave recordings. Journal of Physiology, 2013, 591, 4567-4579.	1.3	74
100	Automated classification of spatiotemporal characteristics of gastric slow wave propagation. , 2013, 2013, 7342-5.		0
101	Experimental and Automated Analysis Techniques for High-resolution Electrical Mapping of Small Intestine Slow Wave Activity. Journal of Neurogastroenterology and Motility, 2013, 19, 179-191.	0.8	37
102	The gastrointestinal electrical mapping suite (GEMS): software for analyzing and visualizing high-resolution (multi-electrode) recordings in spatiotemporal detail. BMC Gastroenterology, 2012, 12, 60.	0.8	89
103	An Improved Method for the Estimation and Visualization of Velocity Fields from Gastric High-Resolution Electrical Mapping. IEEE Transactions on Biomedical Engineering, 2012, 59, 882-889.	2.5	45
104	Rapid highâ€amplitude circumferential slow wave propagation during normal gastric pacemaking and dysrhythmias. Neurogastroenterology and Motility, 2012, 24, e299-312.	1.6	72
105	Circumferential Loop and Functional Re-Entry as Novel Mechanisms of Small Intestine Pacesetting. Gastroenterology, 2011, 140, S-374.	0.6	1
106	The Gastric Electrical Mapping Suite (GEMS): Software for Analyzing and Visualizing Gastrointestinal Multi-Electrode Recordings. Gastroenterology, 2011, 140, S-120.	0.6	1
107	Emergence of Circumferential Slow Wave Propagation During Gastric Dysrhythmias in Diabetic Gastroparesis. Gastroenterology, 2011, 140, S-705.	0.6	0
108	Improved signal processing techniques for the analysis of high resolution serosal slow wave activity in the stomach. , 2011, 2011, 1737-40.		36

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109	Quantification of velocity anisotropy during gastric electrical arrhythmia. , 2011, 2011, 4402-5.		9
110	Mapping small intestine bioelectrical activity using high-resolution printed-circuit-board electrodes. , 2011, 2011, 4951-4.		10
111	A comparison of gold versus silver electrode contacts for high-resolution gastric electrical mapping using flexible printed circuit board arrays. Physiological Measurement, 2011, 32, N13-N22.	1.2	19