Govind Rao

List of Publications by Year
in descending order

86 papers	3,328 citations	172457 29 h-index	168389 53 g-index
87 all docs	87 docs citations	87 times ranked	2859 citing authors

#	Article	IF	Citations
1	Purification challenges for the portable, on-demand point-of-care production of biologics. Current Opinion in Chemical Engineering, 2022, 36, 100802.	7.8	1
2	Rapid Ultrasensitive and High-Throughput Bioburden Detection: Microfluidics and Instrumentation. Analytical Chemistry, 2022, 94, 8683-8692.	6.5	4
3	Real-Time Monitoring of Transdermal CO2 Emission Rate While Exercising and Resting with a Mask. ECS Meeting Abstracts, 2021, MA2021-01, 2038-2038.	0.0	0
4	Rapid and lowâ€cost sampling for detection of airborne SARSâ€CoVâ€2 in dehumidifier condensate. Biotechnology and Bioengineering, 2021, 118, 3029-3036.	3.3	16
5	Transdermal sensing: in-situ non-invasive techniques for monitoring of human biochemical status. Current Opinion in Biotechnology, 2021, 71, 198-205.	6.6	12
6	Surface Plasmon-Coupled Dual Emission Platform for Ultrafast Oxygen Monitoring after SARS-CoV-2 Infection. ACS Sensors, 2021, 6, 4360-4368.	7.8	10
7	What do masks mask? A study on transdermal CO2 monitoring. Medical Engineering and Physics, 2021, 98, 50-56.	1.7	3
8	Realâ€time dissolved carbon dioxide monitoring II: Surface aeration intensification for efficient CO 2 removal in shake flasks and miniâ€bioreactors leads to superior growth and recombinant protein yields. Biotechnology and Bioengineering, 2020, 117, 992-998.	3.3	14
9	Realâ€time dissolved carbon dioxide monitoring I: Application of a novel in situ sensor for CO 2 monitoring and control. Biotechnology and Bioengineering, 2020, 117, 981-991.	3.3	12
10	A Cell-Free Protein Expression System Derived from Human Primary Peripheral Blood Mononuclear Cells. ACS Synthetic Biology, 2020, 9, 2188-2196.	3.8	2
11	Manufacturing biological medicines on demand: Safety and efficacy of granulocyte colonyâ€stimulating factor in a mouse model of total body irradiation. Biotechnology Progress, 2020, 36, e2970.	2.6	6
12	Wood Microfluidics. Analytical Chemistry, 2019, 91, 11004-11012.	6.5	20
13	Fractal Carbon Islands on Plastic Substrates for Enhancement in Directional and Beaming Fluorescence Emission. ACS Applied Nano Materials, 2019, 2, 6103-6109.	5.0	5
14	Spacer and Cavity Engineering on Low-cost Plastic Substrates for 100-Fold Enhancements in Metal-Dielectric-Metal-Based Directional Fluorescence Emission. Plasmonics, 2019, 14, 731-736.	3.4	2
15	Lowâ€cost customizable microscale toolkit for rapid screening and purification of therapeutic proteins. Biotechnology and Bioengineering, 2019, 116, 870-881.	3.3	10
16	Improving the recombinant human erythropoietin glycosylation using microsome supplementation in CHO cellâ€free system. Biotechnology and Bioengineering, 2018, 115, 1253-1264.	3.3	17
17	Cellâ€free production of a therapeutic protein: Expression, purification, and characterization of recombinant streptokinase using a CHO lysate. Biotechnology and Bioengineering, 2018, 115, 92-102.	3.3	36
18	Cell-free biomanufacturing. Current Opinion in Chemical Engineering, 2018, 22, 177-183.	7.8	65

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19	Minimally invasive technique for measuring transdermal glucose with a fluorescent biosensor. Analytical and Bioanalytical Chemistry, 2018, 410, 7249-7260.	3.7	16
20	Rapid recombinant protein expression in cell-free extracts from human blood. Scientific Reports, 2018, 8, 9569.	3.3	19
21	Point-of-care production of therapeutic proteins of good-manufacturing-practice quality. Nature Biomedical Engineering, 2018, 2, 675-686.	22.5	79
22	Development and characterization of a point-of care rate-based transcutaneous respiratory status monitor. Medical Engineering and Physics, 2018, 56, 36-41.	1.7	15
23	Measuring transdermal glucose levels in neonates by passive diffusion: an in vitro porcine skin model. Analytical and Bioanalytical Chemistry, 2017, 409, 3475-3482.	3.7	6
24	Optimizing cellâ€free protein expression in CHO: Assessing small molecule mass transfer effects in various reactor configurations. Biotechnology and Bioengineering, 2017, 114, 1478-1486.	3.3	14
25	Rapid Detection of Microbial Contamination Using a Microfluidic Device. Methods in Molecular Biology, 2017, 1571, 287-299.	0.9	5
26	Immunoglobulin G elution in protein A chromatography employing the method of chromatofocusing for reducing the coâ€elution of impurities. Biotechnology and Bioengineering, 2017, 114, 154-162.	3.3	1
27	Carbon quantum dots shuttle electrons to the anode of a microbial fuel cell. 3 Biotech, 2016, 6, 228.	2.2	17
28	Optical sensor for rapid microbial detection. Proceedings of SPIE, 2016, , .	0.8	3
29	Versatile common instrumentation for optical detection of pH and dissolved oxygen. Review of Scientific Instruments, 2015, 86, 074302.	1.3	12
30	Non-Invasive Optical Sensor Based Approaches for Monitoring Virus Culture to Minimize BSL3 Laboratory Entry. Sensors, 2015, 15, 14864-14870.	3.8	1
31	Studies of Protein Oxidation as a Product Quality Attribute on a Scale-Down Model for Cell Culture Process Development. PDA Journal of Pharmaceutical Science and Technology, 2015, 69, 236-247.	0.5	0
32	DREAM Assay for Studying Microbial Electron Transfer. Applied Biochemistry and Biotechnology, 2015, 177, 1767-1775.	2.9	10
33	A unique noninvasive approach to monitoring dissolved O₂ and CO₂ in cell culture. Biotechnology and Bioengineering, 2015, 112, 104-110.	3.3	14
34	Portable system for the detection of micromolar concentrations of glucose. Measurement Science and Technology, 2014, 25, 025701.	2.6	18
35	Passive Diffusion of Transdermal Glucose. Journal of Diabetes Science and Technology, 2014, 8, 291-298.	2.2	17
36	A novel approach toward noninvasive monitoring of transcutaneous CO2. Medical Engineering and Physics, 2014, 36, 136-139.	1.7	9

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37	Realâ€time monitoring of shake flask fermentation and off gas using triple disposable noninvasive optical sensors. Biotechnology Progress, 2012, 28, 872-877.	2.6	17
38	Studies of Surface-Adsorbed Fluorescently Labeled Casein and Concanavalin A Using Surface Plasmon-Coupled Emission. Plasmonics, 2010, 5, 383-387.	3.4	11
39	Dissolved oxygen and pH profile evolution after cryovial thaw and repeated cell passaging in a Tâ€75 flask. Biotechnology and Bioengineering, 2010, 105, 1040-1047.	3.3	16
40	Disposable bioprocessing: The future has arrived. Biotechnology and Bioengineering, 2009, 102, 348-356.	3.3	94
41	Solution-Deposited Thin Silver Films on Plastic Surfaces for Low-Cost Applications in Plasmon-Coupled Emission Sensors. Plasmonics, 2009, 4, 127-133.	3.4	10
42	Spectral resolution of molecular ensembles under ambient conditions using surface plasmon coupled fluorescence emission. Applied Optics, 2009, 48, 5348.	2.1	29
43	High-resolution surface plasmon coupled resonant filter for monitoring of fluorescence emission from molecular multiplexes. Applied Physics Letters, 2009, 94, 223113.	3.3	26
44	A novel method for monitoring monoclonal antibody production during cell culture. Biotechnology and Bioengineering, 2008, 100, 448-457.	3.3	16
45	Comparisons of optical pH and dissolved oxygen sensors with traditional electrochemical probes during mammalian cell culture. Biotechnology and Bioengineering, 2007, 97, 833-841.	3.3	90
46	SPCE-based sensors: Ultrafast oxygen sensing using surface plasmon-coupled emission from ruthenium probes. Sensors and Actuators B: Chemical, 2007, 127, 432-440.	7.8	33
47	Validation of an optical sensor-based high-throughput bioreactor system for mammalian cell culture. Journal of Biotechnology, 2006, 122, 293-306.	3.8	97
48	Directional Surface Plasmon-Coupled Emission from a 3 nm Green Fluorescent Protein Monolayer. Biotechnology Progress, 2005, 21, 1731-1735.	2.6	29
49	Low-cost noninvasive optical CO2 sensing system for fermentation and cell culture. Biotechnology and Bioengineering, 2005, 89, 329-334.	3.3	55
50	A study of oxygen transfer in shake flasks using a non-invasive oxygen sensor. Biotechnology and Bioengineering, 2003, 84, 351-358.	3.3	146
51	High-stability non-invasive autoclavable naked optical CO2 sensor. Biosensors and Bioelectronics, 2003, 18, 857-865.	10.1	70
52	Low-cost gated system for monitoring phosphorescence lifetimes. Review of Scientific Instruments, 2003, 74, 4129-4133.	1.3	10
53	Noninvasive measurement of dissolved oxygen in shake flasks. Biotechnology and Bioengineering, 2002, 80, 594-597.	3.3	89
54	Dual Excitation Ratiometric Fluorescent pH Sensor for Noninvasive Bioprocess Monitoring: Development and Application. Biotechnology Progress, 2002, 18, 1047-1053.	2.6	149

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55	Low-cost microbioreactor for high-throughput bioprocessing. Biotechnology and Bioengineering, 2001, 72, 346-352.	3.3	189
56	Enhancement of organophosphorus hydrolase yield inEscherichia coli using multiple gene fusions. Biotechnology and Bioengineering, 2001, 75, 100-103.	3.3	28
57	Purification of Recombinant Green Fluorescent Protein Using Chromatofocusing with a pH Gradient Composed of Multiple Stepwise Fronts. Biotechnology Progress, 2001, 17, 150-160.	2.6	20
58	Noninvasive oxygen measurements and mass transfer considerations in tissue culture flasks. , 2000, 51, 466-478.		33
59	Framework for online optimization of recombinant protein expression in high-cell-densityEscherichia coli cultures using GFP-fusion monitoring. Biotechnology and Bioengineering, 2000, 69, 275-285.	3.3	37
60	Green fluorescent protein inSaccharomyces cerevisiae: Real-time studies of theGAL1 promoter. Biotechnology and Bioengineering, 2000, 70, 187-196.	3.3	80
61	All solid-state GFP sensor. Biotechnology and Bioengineering, 2000, 70, 473-477.	3.3	33
62	Ratiometric oxygen sensing: detection of dual-emission ratio through a single emission filter. Analyst, The, 2000, 125, 1175-1178.	3.5	45
63	Low-cost optical instrumentation for biomedical measurements. Review of Scientific Instruments, 2000, 71, 4361.	1.3	68
64	Low-cost device for ratiometric fluorescence measurements. Review of Scientific Instruments, 1999, 70, 4466-4470.	1.3	21
65	Monitoring GFP-operon fusion protein expression during high cell density cultivation ofEscherichia coli using an on-line optical sensor. , 1999, 65, 54-64.		136
66	Insect larval expression process is optimized by generating fusions with green fluorescent protein. Biotechnology and Bioengineering, 1999, 65, 316-324.	3.3	47
67	Low cost phase-modulation measurements of nanosecond fluorescence lifetimes using a lock-in amplifier. Review of Scientific Instruments, 1999, 70, 1535-1539.	1.3	51
68	Polarization-Based Sensing with a Self-Referenced Sample. Applied Spectroscopy, 1999, 53, 1149-1157.	2.2	18
69	Green Fluorescent Protein as a Noninvasive Stress Probe in Resting <i>Escherichia coli</i> Cells. Applied and Environmental Microbiology, 1999, 65, 409-414.	3.1	74
70	Steam-Sterilizable, Fluorescence Lifetime-Based Sensing Film for Dissolved Carbon Dioxide. Biotechnology Progress, 1998, 14, 326-331.	2.6	24
71	Green Fluorescent Protein as a Real Time Quantitative Reporter of Heterologous Protein Production. Biotechnology Progress, 1998, 14, 351-354.	2.6	103
72	Generating controlled reducing environments in aerobic recombinantEscherichia coli fermentations: Effects on cell growth, oxygen uptake, heat shock protein expression, and in vivo CAT activity. , 1998, 59, 248-259.		35

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73	A low-cost device for the estimation of fluoride in drinking water. Field Analytical Chemistry and Technology, 1998, 2, 51-58.	0.8	16
74	Generating controlled reducing environments in aerobic recombinant Escherichia coli fermentations: Effects on cell growth, oxygen uptake, heat shock protein expression, and in vivo CAT activity. Biotechnology and Bioengineering, 1998, 59, 248-259.	3.3	1
75	On-line green fluorescent protein sensor with LED excitation. , 1997, 55, 921-926.		60
76	Expression of green fluorescent protein in insect larvae and its application for heterologous protein production. , 1997, 56, 239-247.		53
77	A fluorescence lifetime-based solid sensor for water. Analytica Chimica Acta, 1997, 350, 97-104.	5.4	75
78	Noninvasive oxygen measurements and mass transfer considerations in tissue culture flasks. , 1996, 51, 466.		1
79	Improvement of <i>Escherichia coli</i> microaerobic oxygen metabolism by <i>Vitreoscilla</i> hemoglobin: New insights from NAD(P)H fluorescence and culture redox potential. Biotechnology and Bioengineering, 1995, 47, 347-354.	3.3	50
80	Phase fluorometric sterilizable optical oxygen sensor. Biotechnology and Bioengineering, 1994, 43, 1139-1145.	3.3	102
81	Comparison of trypan blue dye exclusion and fluorometric assays for mammalian cell viability determinations. Biotechnology Progress, 1993, 9, 671-674.	2.6	335
82	Consistency evaluation of batch fermentations based on on-line NADH fluorescence. Biotechnology Progress, 1992, 8, 410-412.	2.6	6
83	Effect of reducing agents in an aerobic amino acid fermentation. Biotechnology and Bioengineering, 1992, 40, 851-857.	3.3	22
84	Utility of culture redox potential for identifying metabolic state changes in Amino acid fermentation. Biotechnology and Bioengineering, 1991, 38, 1034-1040.	3.3	26
85	Practical considerations in the measurement of culture fluorescence. Biotechnology Progress, 1990, 6, 398-401.	2.6	20
86	NADH levels and solventogenesis in Clostridium acetobutylicum: New insights through culture fluorescence. Applied Microbiology and Biotechnology, 1989, 30, 59.	3.6	39