Nuno Filipe Azevedo

List of Publications by Year
in descending order

126 papers	4,528 citations	117625 34 h-index	118850 62 g-index
131 all docs	131 docs citations	131 times ranked	5852 citing authors

#	Article	IF	Citations
1	Critical review on biofilm methods. Critical Reviews in Microbiology, 2017, 43, 313-351.	6.1	693
2	Surface modifications for antimicrobial effects in the healthcare setting: a critical overview. Journal of Hospital Infection, 2018, 99, 239-249.	2.9	225
3	Propidium iodide staining underestimates viability of adherent bacterial cells. Scientific Reports, 2019, 9, 6483.	3.3	203
4	Anti-miRNA oligonucleotides: A comprehensive guide for design. RNA Biology, 2018, 15, 338-352.	3.1	172
5	Discriminating Multi-Species Populations in Biofilms with Peptide Nucleic Acid Fluorescence In Situ Hybridization (PNA FISH). PLoS ONE, 2011, 6, e14786.	2.5	128
6	Detection of Escherichia coli in Biofilms from Pipe Samples and Coupons in Drinking Water Distribution Networks. Applied and Environmental Microbiology, 2007, 73, 7456-7464.	3.1	94
7	DNA Mimics for the Rapid Identification of Microorganisms by Fluorescence in situ Hybridization (FISH). International Journal of Molecular Sciences, 2008, 9, 1944-1960.	4.1	94
8	Nanomaterials and molecular transporters to overcome the bacterial envelope barrier: Towards advanced delivery of antibiotics. Advanced Drug Delivery Reviews, 2018, 136-137, 28-48.	13.7	91
9	Coccoid Form of Helicobacter pylori as a Morphological Manifestation of Cell Adaptation to the Environment. Applied and Environmental Microbiology, 2007, 73, 3423-3427.	3.1	89
10	Pulsed laser deposition of copper and zinc doped hydroxyapatite coatings for biomedical applications. Surface and Coatings Technology, 2018, 333, 168-177.	4.8	88
11	Eco-friendly non-biocide-release coatings for marine biofouling prevention. Science of the Total Environment, 2019, 650, 2499-2511.	8.0	87
12	Persistence of Helicobacter pylori in Heterotrophic Drinking-Water Biofilms. Applied and Environmental Microbiology, 2008, 74, 5898-5904.	3.1	85
13	Antibiotic resistance of mixed biofilms in cystic fibrosis: impact of emerging microorganisms on treatment of infection. International Journal of Antimicrobial Agents, 2012, 40, 260-263.	2.5	85
14	The Epidemiology of Helicobacter pylori and Public Health Implications. Helicobacter, 2009, 14, 1-7.	3.5	83
15	Fluorescence In Situ Hybridization Method Using a Peptide Nucleic Acid Probe for Identification of Salmonella spp. in a Broad Spectrum of Samples. Applied and Environmental Microbiology, 2010, 76, 4476-4485.	3.1	80
16	Detection of Salmonella enterica serovar Enteritidis using real time PCR, immunocapture assay, PNA FISH and standard culture methods in different types of food samples. International Journal of Food Microbiology, 2013, 161, 16-22.	4.7	67
17	Shear Stress, Temperature, and Inoculation Concentration Influence the Adhesion of Water-Stressed Helicobacter pylori to Stainless Steel 304 and Polypropylene. Applied and Environmental Microbiology, 2006, 72, 2936-2941.	3.1	66
18	Impact of polymicrobial biofilms in catheter-associated urinary tract infections. Critical Reviews in Microbiology, 2017, 43, 423-439.	6.1	63

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19	Survival of Gastric and Enterohepatic Helicobacter spp. in Water: Implications for Transmission. Applied and Environmental Microbiology, 2008, 74, 1805-1811.	3.1	59
20	Validation of SYTO 9/Propidium Iodide Uptake for Rapid Detection of Viable but Noncultivable Legionella pneumophila. Microbial Ecology, 2009, 58, 56-62.	2.8	57
21	Adhesion of water stressed Helicobacter pylori to abiotic surfaces. Journal of Applied Microbiology, 2006, 101, 718-724.	3.1	56
22	Biofilm formation with mixed cultures ofPseudomonas aeruginosa/Escherichia colion silicone using artificial urine to mimic urinary catheters. Biofouling, 2013, 29, 829-840.	2.2	56
23	Development and Application of a Novel Peptide Nucleic Acid Probe for the Specific Detection of Helicobacter pylori in Gastric Biopsy Specimens. Journal of Clinical Microbiology, 2007, 45, 3089-3094.	3.9	53
24	Development and Application of a Novel Peptide Nucleic Acid Probe for the Specific Detection of Cronobacter Genomospecies (Enterobacter sakazakii) in Powdered Infant Formula. Applied and Environmental Microbiology, 2009, 75, 2925-2930.	3.1	51
25	Minimum information guideline for spectrophotometric and fluorometric methods to assess biofilm formation in microplates. Biofilm, 2020, 2, 100010.	3.8	50
26	Validation of a Fluorescence In Situ Hybridization Method Using Peptide Nucleic Acid Probes for Detection of Helicobacter pylori Clarithromycin Resistance in Gastric Biopsy Specimens. Journal of Clinical Microbiology, 2013, 51, 1887-1893.	3.9	49
27	Identification of pathogenic bacteria in complex samples using a smartphone based fluorescence microscope. RSC Advances, 2018, 8, 36493-36502.	3.6	48
28	Fluorescence in situ Hybridization method using Peptide Nucleic Acid probes for rapid detection of Lactobacillus and Gardnerella spp.. BMC Microbiology, 2013, 13, 82.	3.3	44
29	Minimum information about a biofilm experiment (MIABiE): standards for reporting experiments and data on sessile microbial communities living at interfaces. Pathogens and Disease, 2014, 70, 250-256.	2.0	43
30	Interaction of legionella pneumophila and helicobacter pylori with bacterial species isolated from drinking water biofilms. BMC Microbiology, 2011, 11, 57.	3.3	42
31	A New Model for the Transmission ofHelicobacter pylori: Role of Environmental Reservoirs as Gene Pools to Increase Strain Diversity. Critical Reviews in Microbiology, 2007, 33, 157-169.	6.1	40
32	Hybridization-Based Detection of Helicobacter pylori at Human Body Temperature Using Advanced Locked Nucleic Acid (LNA) Probes. PLoS ONE, 2013, 8, e81230.	2.5	40
33	Nutrient Shock and Incubation Atmosphere Influence Recovery of Culturable Helicobacter pylori from Water. Applied and Environmental Microbiology, 2004, 70, 490-493.	3.1	39
34	Optimization of a peptide nucleic acid fluorescence in situ hybridization (PNA-FISH) method for the detection of bacteria and disclosure of a formamide effect. Journal of Biotechnology, 2014, 187, 16-24.	3.8	36
35	Polymicrobial Ventilator-Associated Pneumonia: Fighting In Vitro Candida albicans-Pseudomonas aeruginosa Biofilms with Antifungal-Antibacterial Combination Therapy. PLoS ONE, 2017, 12, e0170433.	2.5	36
36	Drinking water biofilm assessment of total and culturable bacteria under different operating conditions. Biofouling, 2006, 22, 91-99.	2.2	35

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37	Detection of Escherichia coli O157 by Peptide Nucleic Acid Fluorescence In Situ Hybridization (PNA-FISH) and Comparison to a Standard Culture Method. Applied and Environmental Microbiology, 2013, 79, 6293-6300.	3.1	35
38	BiofOmics: A Web Platform for the Systematic and Standardized Collection of High-Throughput Biofilm Data. PLoS ONE, 2012, 7, e39960.	2.5	35
39	PNA-FISH as a new diagnostic method for the determination of clarithromycin resistance of Helicobacter pylori. BMC Microbiology, 2011, 11, 101.	3.3	34
40	Quantitative assessment of individual populations within polymicrobial biofilms. Scientific Reports, 2018, 8, 9494.	3.3	32
41	Helicobacter pylori infection: from standard to alternative treatment strategies. Critical Reviews in Microbiology, 2022, 48, 376-396.	6.1	31
42	Fluorescence in situ hybridization method using a peptide nucleic acid probe for identification of Lactobacillus spp. in milk samples. International Journal of Food Microbiology, 2013, 162, 64-70.	4.7	30
43	The cystic fibrosis microbiome in an ecological perspective and its impact in antibiotic therapy. Applied Microbiology and Biotechnology, 2016, 100, 1163-1181.	3.6	30
44	Development and application of Peptide Nucleic Acid Fluorescence in situ Hybridization for the specific detection of Listeria monocytogenes. Food Microbiology, 2019, 80, 1-8.	4.2	30
45	Effect of Chlorine on Incorporation of Helicobacter pylori into Drinking Water Biofilms. Applied and Environmental Microbiology, 2010, 76, 1669-1673.	3.1	29
46	Discrimination of bacteriophage infected cells using locked nucleic acid fluorescent in situ hybridization (LNA-FISH). Biofouling, 2016, 32, 179-190.	2.2	29
47	Towards Fluorescence In Vivo Hybridization (FIVH) Detection of H. pylori in Gastric Mucosa Using Advanced LNA Probes. PLoS ONE, 2015, 10, e0125494.	2.5	28
48	Interaction between atypical microorganisms andE. coliin catheter-associated urinary tract biofilms. Biofouling, 2014, 30, 893-902.	2.2	27
49	Relationship between invasion of theperiodontiumby periodontal pathogens and periodontal disease: a systematic review. Virulence, 2015, 6, 208-215.	4.4	27
50	Intracellular delivery of oligonucleotides in Helicobacter pylori by fusogenic liposomes in the presence of gastric mucus. Biomaterials, 2017, 138, 1-12.	11.4	27
51	Mismatch discrimination in fluorescent in situ hybridization using different types of nucleic acids. Applied Microbiology and Biotechnology, 2015, 99, 3961-3969.	3.6	26
52	Emergent Bacteria in Cystic Fibrosis:In VitroBiofilm Formation and Resilience under Variable Oxygen Conditions. BioMed Research International, 2014, 2014, 1-7.	1.9	25
53	Prediction of melting temperatures in fluorescencein situhybridization (FISH) procedures using thermodynamic models. Critical Reviews in Biotechnology, 2016, 36, 1-12.	9.0	25
54	Microbiome in cystic fibrosis: Shaping polymicrobial interactions for advances in antibiotic therapy. Critical Reviews in Microbiology, 2015, 41, 353-365.	6.1	24

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55	Interlaboratory study for the evaluation of three microtiter plate-based biofilm quantification methods. Scientific Reports, 2021, 11, 13779.	3.3	24
56	Time to â€œgo largeâ€•on biofilm research: advantages of an omics approach. Biotechnology Letters, 2009, 31, 477-485.	2.2	23
57	Influence of the fixation/permeabilization step on peptide nucleic acid fluorescence in situ hybridization (PNA-FISH) for the detection of bacteria. PLoS ONE, 2018, 13, e0196522.	2.5	22
58	Application of flow cytometry for the identification of Staphylococcus epidermidis by peptide nucleic acid fluorescence in situ hybridization (PNA FISH) in blood samples. Antonie Van Leeuwenhoek, 2011, 100, 463-470.	1.7	20
59	Detection and discrimination of biofilm populations using locked nucleic acid/2â€²-O-methyl-RNA fluorescence in situ hybridization (LNA/2â€²OMe-FISH). Biochemical Engineering Journal, 2015, 104, 64-73.	3.6	20
60	Optimization of peptide nucleic acid fluorescence in situ hybridization (PNA-FISH) for the detection of bacteria: The effect of pH, dextran sulfate and probe concentration. Journal of Biotechnology, 2016, 226, 1-7.	3.8	19
61	Applications of optical DNA mapping in microbiology. BioTechniques, 2017, 62, 255-267.	1.8	19
62	Optimizing locked nucleic acid/2â€™-O-methyl-RNA fluorescence in situ hybridization (LNA/2â€™OMe-FISH) procedure for bacterial detection. PLoS ONE, 2019, 14, e0217689.	2.5	18
63	FISH and chips: a review of microfluidic platforms for FISH analysis. Medical Microbiology and Immunology, 2020, 209, 373-391.	4.8	18
64	Improving aptamer performance with nucleic acid mimics: de novo and post-SELEX approaches. Trends in Biotechnology, 2022, 40, 549-563.	9.3	18
65	Rapid detection of urinary tract infections caused by Proteus spp. using PNA-FISH. European Journal of Clinical Microbiology and Infectious Diseases, 2013, 32, 781-786.	2.9	17
66	Novel strategy to detect and locate periodontal pathogens: The PNA-FISH technique. Microbiological Research, 2016, 192, 185-191.	5.3	17
67	Application of locked nucleic acid-based probes in fluorescence in situ hybridization. Applied Microbiology and Biotechnology, 2016, 100, 5897-5906.	3.6	17
68	Impact ofDelftia tsuruhatensisandAchromobacter xylosoxidansonEscherichia colidual-species biofilms treated with antibiotic agents. Biofouling, 2016, 32, 227-241.	2.2	17
69	Fluorescence In Vivo Hybridization (FIVH) for Detection of Helicobacter pylori Infection in a C57BL/6 Mouse Model. PLoS ONE, 2016, 11, e0148353.	2.5	16
70	FISHji: New ImageJ macros for the quantification of fluorescence in epifluorescence images. Biochemical Engineering Journal, 2016, 112, 61-69.	3.6	16
71	Targeting miR-9 in gastric cancer cells using locked nucleic acid oligonucleotides. BMC Molecular Biology, 2018, 19, 6.	3.0	16
72	An in vitro model of catheter-associated urinary tract infections to investigate the role of uncommon bacteria on the Escherichia coli microbial consortium. Biochemical Engineering Journal, 2017, 118, 64-69.	3.6	15

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73	Discriminating typical and atypical cystic fibrosisâ€related bacteria by multiplex PNAâ€FISH. Biotechnology and Bioengineering, 2017, 114, 355-367.	3.3	15
74	Helicobacter pylori lipopolysaccharide structural domains and their recognition by immune proteins revealed with carbohydrate microarrays. Carbohydrate Polymers, 2021, 253, 117350.	10.2	14
75	Antimicrobial coating innovations to prevent infectious disease: a consensus view from the AMiCI COST Action. Journal of Hospital Infection, 2020, 105, 116-118.	2.9	13
76	It is all about location: how to pinpoint microorganisms and their functions in multispecies biofilms. Future Microbiology, 2017, 12, 987-999.	2.0	13
77	SARS-CoV-2 Diagnostics Based on Nucleic Acids Amplification: From Fundamental Concepts to Applications and Beyond. Frontiers in Cellular and Infection Microbiology, 2022, 12, 799678.	3.9	13
78	Prevalence and Diversity of Staphylococcus aureus and Staphylococcal Enterotoxins in Raw Milk From Northern Portugal. Frontiers in Microbiology, 2022, 13, 846653.	3.5	13
79	Bioaccumulation of Amyloseâ€Like Glycans by Helicobacter pylori. Helicobacter, 2009, 14, 559-570.	3.5	12
80	Proposal for a method to estimate nutrient shock effects in bacteria. BMC Research Notes, 2012, 5, 422.	1.4	12
81	Identification of cell-surface mannans in a virulent Helicobacter pylori strain. Carbohydrate Research, 2010, 345, 830-838.	2.3	11
82	Effect of Native Gastric Mucus on in vivo Hybridization Therapies Directed at Helicobacter pylori. Molecular Therapy - Nucleic Acids, 2015, 4, e269.	5.1	11
83	Computational resources and strategies to construct single-molecule metabolic models of microbial cells. Briefings in Bioinformatics, 2016, 17, 863-876.	6.5	11
84	Yeasts identification in microfluidic devices using peptide nucleic acid fluorescence in situ hybridization (PNA-FISH). Biomedical Microdevices, 2017, 19, 11.	2.8	11
85	Developing a model for cystic fibrosis sociomicrobiology based on antibiotic and environmental stress. International Journal of Medical Microbiology, 2017, 307, 460-470.	3.6	11
86	Environmental factors influencing molinate biodegradation by a two-member mixed culture in rice paddy field floodwater. International Biodeterioration and Biodegradation, 2012, 72, 52-58.	3.9	9
87	Agent-based model of diffusion of N-acyl homoserine lactones in a multicellular environment of Pseudomonas aeruginosa and Candida albicans. Biofouling, 2018, 34, 335-345.	2.2	9
88	Biofilms vs. cities and humans vs. aliens â€“ a tale of reproducibility in biofilms. Trends in Microbiology, 2021, 29, 1062-1071.	7.7	9
89	Lipoplexes to Deliver Oligonucleotides in Gram-Positive and Gram-Negative Bacteria: Towards Treatment of Blood Infections. Pharmaceutics, 2021, 13, 989.	4.5	9
90	Modelling aptamers with nucleic acid mimics (NAM): From sequence to three-dimensional docking. PLoS ONE, 2022, 17, e0264701.	2.5	9

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91	Increased Intraspecies Diversity in Escherichia coli Biofilms Promotes Cellular Growth at the Expense of Matrix Production. Antibiotics, 2020, 9, 818.	3.7	8
92	Liposome Delivery of Nucleic Acids in Bacteria: Toward In Vivo Labeling of Human Microbiota. ACS Infectious Diseases, 2022, 8, 1218-1230.	3.8	8
93	Enabling systematic, harmonised and large-scale biofilms data computation: The Biofilms Experiment Workbench. Computer Methods and Programs in Biomedicine, 2015, 118, 309-321.	4.7	7
94	Morphological transition of Helicobacter pylori adapted to water. Future Microbiology, 2017, 12, 1167-1179.	2.0	7
95	Can Vitamin B12 Assist the Internalization of Antisense LNA Oligonucleotides into Bacteria?. Antibiotics, 2021, 10, 379.	3.7	7
96	The role of Nucleic Acid Mimics (NAMs) on FISH-based techniques and applications for microbial detection. Microbiological Research, 2022, 262, 127086.	5.3	7
97	Agent-Based Spatiotemporal Simulation of Biomolecular Systems within the Open Source MASON Framework. BioMed Research International, 2015, 2015, 1-12.	1.9	6
98	Single Molecule Simulation of Diffusion and Enzyme Kinetics. Journal of Physical Chemistry B, 2016, 120, 3809-3820.	2.6	6
99	Establishment of a New PNA-FISH Method for Aspergillus fumigatus Identification: First Insights for Future Use in Pulmonary Samples. Microorganisms, 2020, 8, 1950.	3.6	6
100	Detection of Microorganisms by Fluorescence In Situ Hybridization Using Peptide Nucleic Acid. Methods in Molecular Biology, 2020, 2105, 217-230.	0.9	6
101	Response surface methodology to optimize peptide nucleic acid fluorescence in situ hybridization (PNA-FISH) in Saccharomyces cerevisiae. LWT - Food Science and Technology, 2017, 80, 27-31.	5.2	5
102	Validation of Biomode S.A. Probe4Cronobacter^{TM} for the Identification of Cronobacter spp.. Journal of AOAC INTERNATIONAL, 2019, 102, 855-864.	1.5	5
103	Friends with Benefits: An Inside Look of Periodontal Microbesâ€™ Interactions Using Fluorescence In Situ Hybridizationâ€”Scoping Review. Microorganisms, 2021, 9, 1504.	3.6	5
104	Detection of Helicobacter pylori in the Gastric Mucosa by Fluorescence In Vivo Hybridization. Methods in Molecular Biology, 2017, 1616, 137-146.	0.9	4
105	FISH Variants. Methods in Molecular Biology, 2021, 2246, 17-33.	0.9	4
106	An Introduction to Fluorescence in situ Hybridization in Microorganisms. Methods in Molecular Biology, 2021, 2246, 1-15.	0.9	4
107	Computational approaches to standard-compliant biofilm data for reliable analysis and integration. Journal of Integrative Bioinformatics, 2012, 9, 57-68.	1.5	3
108	Application of agent-based modelling to assess single-molecule transport across the cell envelope of E. coli. Computers in Biology and Medicine, 2019, 107, 218-226.	7.0	3

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109	A comprehensive model for the diffusion and hybridization processes of nucleic acid probes in fluorescence in situ hybridization. Biotechnology and Bioengineering, 2020, 117, 3212-3223.	3.3	3
110	Computational resources and strategies to assess single-molecule dynamics of the translation process in S. cerevisiae. Briefings in Bioinformatics, 2021, 22, 219-231.	6.5	3
111	Water-induced modulation of Helicobacter pylori virulence properties. Memorias Do Instituto Oswaldo Cruz, 2014, 109, 414-419.	1.6	2
112	A harmonised vocabulary for communicating and interchanging Biofilms experimental results. Journal of Integrative Bioinformatics, 2014, 11, 32-47.	1.5	2
113	Delivery of Oligonucleotides into Bacteria by Fusogenic Liposomes. Methods in Molecular Biology, 2021, 2246, 87-96.	0.9	2
114	BEW: Bioinformatics Workbench for Analysis of Biofilms Experimental Data. Advances in Intelligent Systems and Computing, 2014, , 49-56.	0.6	2
115	Computational approaches to standard-compliant biofilm data for reliable analysis and integration. Journal of Integrative Bioinformatics, 2012, 9, 203.	1.5	2
116	A new colorimetric peptide nucleic acid-based assay for the specific detection of bacteria. Future Microbiology, 2014, 9, 1131-1142.	2.0	1
117	Detection of <i>Dehalococcoides</i> spp. by Peptide Nucleic Acid Fluorescent in situ Hybridization. Journal of Molecular Microbiology and Biotechnology, 2014, 24, 142-149.	1.0	1
118	New Insights on Biofilm Antimicrobial Strategies. Antibiotics, 2021, 10, 407.	3.7	1
119	Development of a Novel Peptide Nucleic Acid Probe for the Detection of Legionella spp. in Water Samples. Microorganisms, 2022, 10, 1409.	3.6	1
120	Integration of FISH and Microfluidics. Methods in Molecular Biology, 2021, 2246, 249-261.	0.9	0
121	FISH in Food Samples. Methods in Molecular Biology, 2021, 2246, 279-290.	0.9	0
122	Computational Resources and Strategies to Construct Single-Molecule Models of FISH. Methods in Molecular Biology, 2021, 2246, 317-330.	0.9	0
123	A Systematic Approach to the Interrogation and Sharing of Standardised Biofilm Signatures. Advances in Intelligent and Soft Computing, 2012, , 113-120.	0.2	0
124	Designing an Ontology Tool for the Unification of Biofilms Data. Advances in Intelligent Systems and Computing, 2014, , 41-48.	0.6	0
125	Application of Agent-Based Modelling to Simulate Ribosome Translation. Lecture Notes in Computer Science, 2020, , 200-211.	1.3	0
126	An harmonised vocabulary for communicating and interchanging biofilms experimental results. Journal of Integrative Bioinformatics, 2014, 11, 249.	1.5	0