

# Gurvan Michel

## List of Publications by Citations

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95  
papers

7,481  
citations

44  
h-index

86  
g-index

100  
ext. papers

9,509  
ext. citations

7.8  
avg, IF

5.58  
L-index

#	Paper	IF	Citations
95	Transfer of carbohydrate-active enzymes from marine bacteria to Japanese gut microbiota. <i>Nature</i> , <b>2010</b> , 464, 908-12	50.4	734
94	The Ectocarpus genome and the independent evolution of multicellularity in brown algae. <i>Nature</i> , <b>2010</b> , 465, 617-21	50.4	645
93	Environmental and gut bacteroidetes: the food connection. <i>Frontiers in Microbiology</i> , <b>2011</b> , 2, 93	5.7	605
92	Evolution and diversity of plant cell walls: from algae to flowering plants. <i>Annual Review of Plant Biology</i> , <b>2011</b> , 62, 567-90	30.7	455
91	The cell wall polysaccharide metabolism of the brown alga Ectocarpus siliculosus. Insights into the evolution of extracellular matrix polysaccharides in Eukaryotes. <i>New Phytologist</i> , <b>2010</b> , 188, 82-97	9.8	297
90	The genome of the seagrass Zostera marina reveals angiosperm adaptation to the sea. <i>Nature</i> , <b>2016</b> , 530, 331-5	50.4	276
89	Genome structure and metabolic features in the red seaweed Chondrus crispus shed light on evolution of the Archaeplastida. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 5247-52	11.5	239
88	Bioconversion of red seaweed galactans: a focus on bacterial agarases and carrageenases. <i>Applied Microbiology and Biotechnology</i> , <b>2006</b> , 71, 23-33	5.7	186
87	Structural evidence for the evolution of xyloglucanase activity from xyloglucan endo-transglycosylases: biological implications for cell wall metabolism. <i>Plant Cell</i> , <b>2007</b> , 19, 1947-63	11.6	178
86	The kappa-carrageenase of P. carrageenovora features a tunnel-shaped active site: a novel insight in the evolution of Clan-B glycoside hydrolases. <i>Structure</i> , <b>2001</b> , 9, 513-25	5.2	167
85	Chemical and enzymatic fractionation of cell walls from Fucales: insights into the structure of the extracellular matrix of brown algae. <i>Annals of Botany</i> , <b>2014</b> , 114, 1203-16	4.1	164
84	Insights into the red algae and eukaryotic evolution from the genome of (Bangioophyceae, Rhodophyta). <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, E6361-E6370	11.5	131
83	Central and storage carbon metabolism of the brown alga Ectocarpus siliculosus: insights into the origin and evolution of storage carbohydrates in Eukaryotes. <i>New Phytologist</i> , <b>2010</b> , 188, 67-81	9.8	129
82	Characterization of the first alginolytic operons in a marine bacterium: from their emergence in marine Flavobacteriia to their independent transfers to marine Proteobacteria and human gut Bacteroides. <i>Environmental Microbiology</i> , <b>2012</b> , 14, 2379-94	5.2	128
81	Comparative characterization of two marine alginate lyases from Zobellia galactanivorans reveals distinct modes of action and exquisite adaptation to their natural substrate. <i>Journal of Biological Chemistry</i> , <b>2013</b> , 288, 23021-37	5.4	122
80	The endo-beta-agarases AgaA and AgaB from the marine bacterium Zobellia galactanivorans: two paralogue enzymes with different molecular organizations and catalytic behaviours. <i>Biochemical Journal</i> , <b>2005</b> , 385, 703-13	3.8	108
79	Development and physiology of the brown alga Ectocarpus siliculosus: two centuries of research. <i>New Phytologist</i> , <b>2008</b> , 177, 319-332	9.8	103

78	Microorganisms living on macroalgae: diversity, interactions, and biotechnological applications. <i>Applied Microbiology and Biotechnology</i> , <b>2014</b> , 98, 2917-35	5.7	98
77	iota-Carrageenases constitute a novel family of glycoside hydrolases, unrelated to that of kappa-carrageenases. <i>Journal of Biological Chemistry</i> , <b>2000</b> , 275, 35499-505	5.4	97
76	The Cultivable Surface Microbiota of the Brown Alga <i>Ascophyllum nodosum</i> is Enriched in Macroalgal-Polysaccharide-Degrading Bacteria. <i>Frontiers in Microbiology</i> , <b>2015</b> , 6, 1487	5.7	89
75	Carrageenan-induced innate immune response is modified by enzymes that hydrolyze distinct galactosidic bonds. <i>Journal of Nutritional Biochemistry</i> , <b>2010</b> , 21, 906-13	6.3	87
74	Biochemical and structural characterization of the complex agarolytic enzyme system from the marine bacterium <i>Zobellia galactanivorans</i> . <i>Journal of Biological Chemistry</i> , <b>2012</b> , 287, 30571-84	5.4	85
73	The structure of the RlmB 23S rRNA methyltransferase reveals a new methyltransferase fold with a unique knot. <i>Structure</i> , <b>2002</b> , 10, 1303-15	5.2	84
72	Structures of shikimate dehydrogenase AroE and its Paralog YdiB. A common structural framework for different activities. <i>Journal of Biological Chemistry</i> , <b>2003</b> , 278, 19463-72	5.4	81
71	Chlorophyll-binding proteins revisited--a multigenic family of light-harvesting and stress proteins from a brown algal perspective. <i>BMC Evolutionary Biology</i> , <b>2010</b> , 10, 365	3	76
70	The structure of chondroitin B lyase complexed with glycosaminoglycan oligosaccharides unravels a calcium-dependent catalytic machinery. <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 32882-96	5.4	76
69	Matching the Diversity of Sulfated Biomolecules: Creation of a Classification Database for Sulfatases Reflecting Their Substrate Specificity. <i>PLoS ONE</i> , <b>2016</b> , 11, e0164846	3.7	73
68	Habitat and taxon as driving forces of carbohydrate catabolism in marine heterotrophic bacteria: example of the model algae-associated bacterium <i>Zobellia galactanivorans</i> Dsij. <i>Environmental Microbiology</i> , <b>2016</b> , 18, 4610-4627	5.2	72
67	Carrageenan catabolism is encoded by a complex regulon in marine heterotrophic bacteria. <i>Nature Communications</i> , <b>2017</b> , 8, 1685	17.4	72
66	Vanadium-dependent iodoperoxidases in <i>Laminaria digitata</i> , a novel biochemical function diverging from brown algal bromoperoxidases. <i>Journal of Biological Inorganic Chemistry</i> , <b>2005</b> , 10, 156-66	3.7	72
65	Discovery and structural characterization of a novel glycosidase family of marine origin. <i>Environmental Microbiology</i> , <b>2011</b> , 13, 1253-70	5.2	70
64	Cloning and biochemical characterization of the fucanase FcnA: definition of a novel glycoside hydrolase family specific for sulfated fucans. <i>Glycobiology</i> , <b>2006</b> , 16, 1021-32	5.8	66
63	Degradation of $\epsilon$ -carrageenan by <i>Pseudoalteromonas carrageenovora</i> $\epsilon$ -carrageenase: a new family of glycoside hydrolases unrelated to $\beta$ and $\zeta$ -carrageenases. <i>Biochemical Journal</i> , <b>2007</b> , 404, 105-114	3.8	64
62	The iota-carrageenase of <i>Alteromonas fortis</i> . A beta-helix fold-containing enzyme for the degradation of a highly polyanionic polysaccharide. <i>Journal of Biological Chemistry</i> , <b>2001</b> , 276, 40202-9	5.4	62
61	A subfamily roadmap of the evolutionarily diverse glycoside hydrolase family 16 (GH16). <i>Journal of Biological Chemistry</i> , <b>2019</b> , 294, 15973-15986	5.4	55

60	A marine bacterial enzymatic cascade degrades the algal polysaccharide ulvan. <i>Nature Chemical Biology</i> , <b>2019</b> , 15, 803-812	11.7	52
59	Alpha-agarases define a new family of glycoside hydrolases, distinct from beta-agarase families. <i>Applied and Environmental Microbiology</i> , <b>2007</b> , 73, 4691-4	4.8	51
58	The structural bases of the processive degradation of iota-carrageenan, a main cell wall polysaccharide of red algae. <i>Journal of Molecular Biology</i> , <b>2003</b> , 334, 421-33	6.5	51
57	The $\beta$ -glucanase ZgLamA from <i>Zobellia galactanivorans</i> evolved a bent active site adapted for efficient degradation of algal laminarin. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 2027-42	5.4	50
56	Mannitol-1-phosphate dehydrogenase activity in <i>Ectocarpus siliculosus</i> , a key role for mannitol synthesis in brown algae. <i>Planta</i> , <b>2011</b> , 233, 261-73	4.7	48
55	Analysis of nasturtium TmNXG1 complexes by crystallography and molecular dynamics provides detailed insight into substrate recognition by family GH16 xyloglucan endo-transglycosylases and endo-hydrolases. <i>Proteins: Structure, Function and Bioinformatics</i> , <b>2009</b> , 75, 820-36	4.2	47
54	Insoluble (1- $\beta$ ), (1- $\alpha$ )-D-glucan is a component of cell walls in brown algae (Phaeophyceae) and is masked by alginates in tissues. <i>Scientific Reports</i> , <b>2017</b> , 7, 2880	4.9	46
53	Mannitol metabolism in brown algae involves a new phosphatase family. <i>Journal of Experimental Botany</i> , <b>2014</b> , 65, 559-70	7	46
52	MARINE-EXPRESS: taking advantage of high throughput cloning and expression strategies for the post-genomic analysis of marine organisms. <i>Microbial Cell Factories</i> , <b>2010</b> , 9, 45	6.4	44
51	Identification and characterization of a halotolerant, cold-active marine endo- $\beta$ -1,4-glucanase by using functional metagenomics of seaweed-associated microbiota. <i>Applied and Environmental Microbiology</i> , <b>2014</b> , 80, 4958-67	4.8	43
50	Genetic analyses unravel the crucial role of a horizontally acquired alginate lyase for brown algal biomass degradation by <i>Zobellia galactanivorans</i> . <i>Environmental Microbiology</i> , <b>2017</b> , 19, 2164-2181	5.2	41
49	Evaluation of reference genes for real-time quantitative PCR in the marine flavobacterium <i>Zobellia galactanivorans</i> . <i>Journal of Microbiological Methods</i> , <b>2011</b> , 84, 61-6	2.8	39
48	Sweet and sour sugars from the sea: the biosynthesis and remodeling of sulfated cell wall polysaccharides from marine macroalgae. <i>Perspectives in Phycology</i> , <b>2015</b> , 2, 51-64	3.1	38
47	Description of <i>Maribacter forsetii</i> sp. nov., a marine Flavobacteriaceae isolated from North Sea water, and emended description of the genus <i>Maribacter</i> . <i>International Journal of Systematic and Evolutionary Microbiology</i> , <b>2008</b> , 58, 790-7	2.2	38
46	Polysaccharide utilisation loci of Bacteroidetes from two contrasting open ocean sites in the North Atlantic. <i>Environmental Microbiology</i> , <b>2016</b> , 18, 4456-4470	5.2	35
45	Degradation of lambda-carrageenan by <i>Pseudoalteromonas carrageenovora</i> lambda-carrageenase: a new family of glycoside hydrolases unrelated to kappa- and iota-carrageenases. <i>Biochemical Journal</i> , <b>2007</b> , 404, 105-14	3.8	34
44	The Complete Genome Sequence of the Fish Pathogen Provides Insights into Virulence Mechanisms. <i>Frontiers in Microbiology</i> , <b>2017</b> , 8, 1542	5.7	33
43	The Vanadium Iodoperoxidase from the marine flavobacteriaceae species <i>Zobellia galactanivorans</i> reveals novel molecular and evolutionary features of halide specificity in the vanadium haloperoxidase enzyme family. <i>Applied and Environmental Microbiology</i> , <b>2014</b> , 80, 7561-73	4.8	32

42	Halorhabdus tiamatea: proteogenomics and glycosidase activity measurements identify the first cultivated euryarchaeon from a deep-sea anoxic brine lake as potential polysaccharide degrader. <i>Environmental Microbiology</i> , <b>2014</b> , 16, 2525-37	5.2	32
41	Identification of catalytic residues and mechanistic analysis of family GH82 iota-carrageenases. <i>Biochemistry</i> , <b>2010</b> , 49, 7590-9	3.2	32
40	The Family 6 carbohydrate-binding modules have coevolved with their appended catalytic modules toward similar substrate specificity. <i>Glycobiology</i> , <b>2009</b> , 19, 615-23	5.8	31
39	Seasonal and algal diet-driven patterns of the digestive microbiota of the European abalone <i>Haliotis tuberculata</i> , a generalist marine herbivore. <i>Microbiome</i> , <b>2018</b> , 6, 60	16.6	30
38	Mariniflexile fucanivorans sp. nov., a marine member of the Flavobacteriaceae that degrades sulphated fucans from brown algae. <i>International Journal of Systematic and Evolutionary Microbiology</i> , <b>2008</b> , 58, 2107-13	2.2	30
37	Structural and biochemical characterization of the laminarinase ZgLamCGH16 from <i>Zobellia galactanivorans</i> suggests preferred recognition of branched laminarin. <i>Acta Crystallographica Section D: Biological Crystallography</i> , <b>2015</b> , 71, 173-84		29
36	Bromine is an endogenous component of a vanadium bromoperoxidase. <i>Journal of the American Chemical Society</i> , <b>2005</b> , 127, 15340-1	16.4	29
35	Polysaccharide-degrading enzymes from marine bacteria <b>2013</b> , 429-464		28
34	Evolutionary Evidence of Algal Polysaccharide Degradation Acquisition by 9 to Adapt to Macroalgal Niches. <i>Frontiers in Microbiology</i> , <b>2018</b> , 9, 2740	5.7	26
33	Gene Expression Analysis of during the Degradation of Algal Polysaccharides Reveals both Substrate-Specific and Shared Transcriptome-Wide Responses. <i>Frontiers in Microbiology</i> , <b>2017</b> , 8, 1808	5.7	25
32	Genome and metabolic network of "Candidatus Phaeomarinobacter ectocarpi" Ec32, a new candidate genus of Alphaproteobacteria frequently associated with brown algae. <i>Frontiers in Genetics</i> , <b>2014</b> , 5, 241	4.5	23
31	Structural insights into marine carbohydrate degradation by family GH16 $\beta$ -carrageenases. <i>Journal of Biological Chemistry</i> , <b>2017</b> , 292, 19919-19934	5.4	22
30	The cell-wall active mannuronan C5-epimerases in the model brown alga <i>Ectocarpus</i> : From gene context to recombinant protein. <i>Glycobiology</i> , <b>2016</b> , 26, 973-983	5.8	22
29	The mannitol utilization system of the marine bacterium <i>Zobellia galactanivorans</i> . <i>Applied and Environmental Microbiology</i> , <b>2015</b> , 81, 1799-812	4.8	22
28	<i>Chondrus crispus</i> A Present and Historical Model Organism for Red Seaweeds. <i>Advances in Botanical Research</i> , <b>2014</b> , 71, 53-89	2.2	22
27	Discovering novel enzymes by functional screening of plurigenomic libraries from alga-associated Flavobacteriia and Gammaproteobacteria. <i>Microbiological Research</i> , <b>2016</b> , 186-187, 52-61	5.3	22
26	Site-directed mutagenesis of the active site region in the quinate/shikimate 5-dehydrogenase YdiB of <i>Escherichia coli</i> . <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 7162-9	5.4	20
25	Expression, purification, crystallization and preliminary X-ray analysis of the iota-carrageenase from <i>Alteromonas fortis</i> . <i>Acta Crystallographica Section D: Biological Crystallography</i> , <b>2000</b> , 56, 766-8		20

24	Purification, cloning, characterization and essential amino acid residues analysis of a new $\kappa$ -carrageenase from <i>Cellulophaga</i> sp. QY3. <i>PLoS ONE</i> , <b>2013</b> , 8, e64666	3.7	19
23	Biochemical and structural investigation of two paralogous glycoside hydrolases from <i>Zobellia galactanivorans</i> : novel insights into the evolution, dimerization plasticity and catalytic mechanism of the GH117 family. <i>Acta Crystallographica Section D: Biological Crystallography</i> , <b>2015</b> , 71, 209-23		16
22	A single sulfatase is required to access colonic mucin by a gut bacterium. <i>Nature</i> , <b>2021</b> , 598, 332-337	50.4	16
21	Development of novel monoclonal antibodies against starch and ulvan - implications for antibody production against polysaccharides with limited immunogenicity. <i>Scientific Reports</i> , <b>2017</b> , 7, 9326	4.9	15
20	Life cycle analysis of the model organism <i>Rhodopirellula baltica</i> SH 1(T) by transcriptome studies. <i>Microbial Biotechnology</i> , <b>2010</b> , 3, 583-94	6.3	14
19	Expression, purification and preliminary X-ray diffraction analysis of the catalytic module of a beta-agarase from the flavobacterium <i>Zobellia galactanivorans</i> . <i>Acta Crystallographica Section F: Structural Biology Communications</i> , <b>2010</b> , 66, 413-7		14
18	Expression, purification, crystallization and preliminary x-ray analysis of the kappa-carrageenase from <i>Pseudoalteromonas carrageenovora</i> . <i>Acta Crystallographica Section D: Biological Crystallography</i> , <b>1999</b> , 55, 918-20		14
17	The agar-specific hydrolase AgaC from the marine bacterium defines a new GH16 protein subfamily. <i>Journal of Biological Chemistry</i> , <b>2019</b> , 294, 6923-6939	5.4	11
16	Expression, purification, crystallization and preliminary X-ray analysis of the polysaccharide lyase RB5312 from the marine planctomycete <i>Rhodopirellula baltica</i> . <i>Acta Crystallographica Section F: Structural Biology Communications</i> , <b>2008</b> , 64, 224-7		11
15	Double blind microarray-based polysaccharide profiling enables parallel identification of uncharacterized polysaccharides and carbohydrate-binding proteins with unknown specificities. <i>Scientific Reports</i> , <b>2018</b> , 8, 2500	4.9	10
14	The Ectocarpus Genome and Brown Algal Genomics: The Ectocarpus Genome Consortium. <i>Advances in Botanical Research</i> , <b>2012</b> , 64, 141-184	2.2	10
13	Unraveling the multivalent binding of a marine family 6 carbohydrate-binding module with its native laminarin ligand. <i>FEBS Journal</i> , <b>2016</b> , 283, 1863-79	5.7	10
12	Regulation of alginate catabolism involves a GntR family repressor in the marine flavobacterium <i>Zobellia galactanivorans</i> DsijT. <i>Nucleic Acids Research</i> , <b>2020</b> , 48, 7786-7800	20.1	9
11	<i>Alteromonas fortis</i> sp. nov., a non-flagellated bacterium specialized in the degradation of iota-carrageenan, and emended description of the genus <i>Alteromonas</i> . <i>International Journal of Systematic and Evolutionary Microbiology</i> , <b>2019</b> , 69, 2514-2521	2.2	8
10	Role and Evolution of the Extracellular Matrix in the Acquisition of Complex Multicellularity in Eukaryotes: A Macroalgal Perspective. <i>Genes</i> , <b>2021</b> , 12,	4.2	6
9	Innovating glycoside hydrolase activity on a same structural scaffold. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, 4857-4859	11.5	4
8	The laterally acquired GH5 EngA from the marine bacterium is dedicated to hemicellulose hydrolysis. <i>Biochemical Journal</i> , <b>2018</b> , 475, 3609-3628	3.8	4
7	Ruminococcal cellulosomes: molecular Lego to deconstruct microcrystalline cellulose in human gut. <i>Environmental Microbiology</i> , <b>2015</b> , 17, 3113-5	5.2	3

6	Anion binding in biological systems. <i>Journal of Physics: Conference Series</i> , <b>2009</b> , 190, 012196	0.3	3
5	A single bacterial sulfatase is required for metabolism of colonic mucin O-glycans and intestinal colonization by a symbiotic human gut bacterium		2
4	Alterocin, an Antibiofilm Protein Secreted by sp. Strain 3J6. <i>Applied and Environmental Microbiology</i> , <b>2020</b> , 86,	4.8	2
3	In silico and in vitro analysis of an <i>Aspergillus niger</i> chitin deacetylase to decipher its subsite sugar preferences. <i>Journal of Biological Chemistry</i> , <b>2021</b> , 297, 101129	5.4	1
2	Systematic comparison of eight methods for preparation of high purity sulfated fucans extracted from the brown alga <i>Pelvetia canaliculata</i> .. <i>International Journal of Biological Macromolecules</i> , <b>2021</b> , 201, 143-143	7.9	0
1	Microscopic and Molecular Insights into Heterogeneous Phase Degradation of Agars and Carrageenans by Marine Bacterial Galactanases. <i>Macromolecular Symposia</i> , <b>2005</b> , 231, 11-15	0.8	