

# Gregory L Rorrer

## List of Publications by Year in descending order

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73  
papers

2,374  
citations

186265

28  
h-index

214800

47  
g-index

75  
all docs

75  
docs citations

75  
times ranked

2309  
citing authors

#	ARTICLE	IF	CITATIONS
1	The potential of diatom nanobiotechnology for applications in solar cells, batteries, and electroluminescent devices. <i>Energy and Environmental Science</i> , 2011, 4, 3930.	30.8	176
2	Heterogeneous Cross-Linking of Chitosan Gel Beads: Kinetics, Modeling, and Influence on Cadmium Ion Adsorption Capacity. <i>Industrial &amp; Engineering Chemistry Research</i> , 1997, 36, 3631-3638.	3.7	159
3	Photoluminescence Detection of Biomolecules by Antibody-Functionalized Diatom Biosilica. <i>Advanced Functional Materials</i> , 2009, 19, 926-933.	14.9	123
4	Effects of Acylation and Crosslinking on the Material Properties and Cadmium Ion Adsorption Capacity of Porous Chitosan Beads. <i>Separation Science and Technology</i> , 1995, 30, 2455-2475.	2.5	107
5	Two-stage photobioreactor process for the metabolic insertion of nanostructured germanium into the silica microstructure of the diatom <i>Pinnularia</i> sp.. <i>Materials Science and Engineering C</i> , 2008, 28, 107-118.	7.3	97
6	Electroluminescence and Photoluminescence from Nanostructured Diatom Frustules Containing Metabolically Inserted Germanium. <i>Advanced Materials</i> , 2008, 20, 2633-2637.	21.0	92
7	Biogenic nanomaterials from photosynthetic microorganisms. <i>Current Opinion in Biotechnology</i> , 2015, 33, 23-31.	6.6	87
8	Reaction Rates for the Partial Dehydration of Glucose to Organic Acids in Solid-Acid, Molecular-Sieving Catalyst Powders. <i>Journal of Chemical Technology and Biotechnology</i> , 1997, 69, 35-44.	3.2	84
9	Bioprocess engineering of cell and tissue cultures for marine seaweeds. <i>Aquacultural Engineering</i> , 2004, 32, 11-41.	3.1	71
10	Biological Fabrication of Photoluminescent Nanocomb Structures by Metabolic Incorporation of Germanium into the Biosilica of the Diatom <i>Nitzschia frustulum</i> . <i>ACS Nano</i> , 2008, 2, 1296-1304.	14.6	64
11	Enhancing surface plasmon resonances of metallic nanoparticles by diatom biosilica. <i>Optics Express</i> , 2013, 21, 15308.	3.4	60
12	Conversion of Glucose to Hydrogen-Rich Gas by Supercritical Water in a Microchannel Reactor. <i>Industrial &amp; Engineering Chemistry Research</i> , 2008, 47, 4106-4114.	3.7	58
13	Detecting explosive molecules from nanoliter solution: A new paradigm of SERS sensing on hydrophilic photonic crystal biosilica. <i>Biosensors and Bioelectronics</i> , 2017, 88, 63-70.	10.1	57
14	Diffusion of Glucose and Glucitol in Microporous and Mesoporous Silicate/Aluminosilicate Catalysts. <i>Industrial &amp; Engineering Chemistry Research</i> , 1996, 35, 458-464.	3.7	54
15	Ultra-sensitive immunoassay biosensors using hybrid plasmonic-biosilica nanostructured materials. <i>Journal of Biophotonics</i> , 2015, 8, 659-667.	2.3	51
16	Self-Assembly of Nanostructured Diatom Microshells into Patterned Arrays Assisted by Polyelectrolyte Multilayer Deposition and Inkjet Printing. <i>Journal of the American Chemical Society</i> , 2009, 131, 4178-4179.	13.7	48
17	Fed-batch cultivation and bioprocess modeling of <i>Cyclotella</i> sp. for enhanced fatty acid production by controlled silicon limitation. <i>Algal Research</i> , 2013, 2, 16-27.	4.6	45
18	Optofluidic sensing from inkjet-printed droplets: the enormous enhancement by evaporation-induced spontaneous flow on photonic crystal biosilica. <i>Nanoscale</i> , 2016, 8, 17285-17294.	5.6	44

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19	Biological Photonic Crystal-Enhanced Plasmonic Mesocapsules: Approaching Single-Molecule Optofluidic-SERS Sensing. <i>Advanced Optical Materials</i> , 2019, 7, 1900415.	7.3	44
20	Chemical and Biological Sensing Using Diatom Photonic Crystal Biosilica With In-Situ Growth Plasmonic Nanoparticles. <i>IEEE Transactions on Nanobioscience</i> , 2016, 15, 828-834.	3.3	42
21	Biosynthesis of Silicon-Germanium Oxide Nanocomposites by the Marine Diatom <i>Nitzschia frustulum</i> . <i>Journal of Nanoscience and Nanotechnology</i> , 2005, 5, 41-49.	0.9	38
22	HALOGENATED MONOTERPENE PRODUCTION IN REGENERATED PLANTLET CULTURES OF <i>OCHTODES SECUNDIRAMEA</i> (RHODOPHYTA, CRYPTONEMIALES). <i>Journal of Phycology</i> , 2001, 37, 1010-1019.	2.3	36
23	Peptide-mediated deposition of nanostructured TiO <sub>2</sub> into the periodic structure of diatom biosilica. <i>Journal of Materials Research</i> , 2008, 23, 3255-3262.	2.6	36
24	Isolation of Halogenated Monoterpenes from Bioreactor-Cultured Microplantlets of the Macrophytic Red Algae <i>Ochtodes secundiramea</i> and <i>Portieria hornemannii</i> . <i>Journal of Natural Products</i> , 2003, 66, 743-751.	3.0	32
25	Cell damage and oxygen mass transfer during cultivation of <i>Nicotiana tabacum</i> in a stirred-tank bioreactor. <i>Biotechnology Progress</i> , 1995, 11, 140-145.	2.6	31
26	Photoluminescence detection of 2,4,6-trinitrotoluene (TNT) binding on diatom frustule biosilica functionalized with an anti-TNT monoclonal antibody fragment. <i>Biosensors and Bioelectronics</i> , 2016, 79, 742-748.	10.1	31
27	Photonic crystal-enhanced fluorescence imaging immunoassay for cardiovascular disease biomarker screening with machine learning analysis. <i>Sensors and Actuators B: Chemical</i> , 2019, 290, 118-124.	7.8	31
28	Electron Microscopy and Optical Characterization of Cadmium Sulphide Nanocrystals Deposited on the Patterned Surface of Diatom Biosilica. <i>Journal of Nanomaterials</i> , 2009, 2009, 1-7.	2.7	30
29	Photolithotrophic cultivation of <i>Laminaria saccharina</i> gametophyte cells in a stirred-tank bioreactor. <i>Biotechnology and Bioengineering</i> , 1995, 45, 251-260.	3.3	28
30	COMPARISON OF DEVELOPMENT AND PHOTOSYNTHETIC GROWTH FOR FILAMENT CLUMPS AND REGENERATED MICROPLANTLET CULTURES OF <i>AGARDHIELLA SUBULATA</i> (RHODOPHYTA, GIGARTINALES). <i>Journal of Phycology</i> , 1998, 34, 893-901.	2.3	28
31	Halogenated monoterpene production by microplantlets of the marine red alga <i>Ochtodes secundiramea</i> within an airlift photobioreactor under nutrient medium perfusion. <i>Biotechnology and Bioengineering</i> , 2003, 82, 415-428.	3.3	28
32	Production of hydroxy fatty acids by cell suspension cultures of the marine brown alga <i>Laminaria saccharina</i> . <i>Phytochemistry</i> , 1997, 46, 871-877.	2.9	26
33	Photolithotrophic cultivation of <i>Laminaria saccharina</i> gametophyte cells in a bubble-column bioreactor. <i>Enzyme and Microbial Technology</i> , 1996, 18, 291-299.	3.2	24
34	Metabolic flux analysis of halogenated monoterpene biosynthesis in microplantlets of the macrophytic red alga <i>Ochtodes secundiramea</i> . <i>New Biotechnology</i> , 2003, 20, 205-215.	2.7	23
35	Biosynthesis of Marine Natural Products: Isolation and Characterization of a Myrcene Synthase from Cultured Tissues of the Marine Red Alga <i>Ochtodes secundiramea</i> . <i>Archives of Biochemistry and Biophysics</i> , 2002, 400, 125-132.	3.0	21
36	Photonic crystal enhanced fluorescence immunoassay on diatom biosilica. <i>Journal of Biophotonics</i> , 2018, 11, e201800009.	2.3	21

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37	Dynamics of Oxygen Evolution and Biomass Production during Cultivation of <i>Agardhiella subulata</i> Microplantlets in a Bubble-Column Photobioreactor under Medium Perfusion. <i>Biotechnology Progress</i> , 2002, 18, 62-71.	2.6	20
38	Modeling of Supercritical Water Gasification of Xylose to Hydrogen-Rich Gas in a Hastelloy Microchannel Reactor. <i>Industrial &amp; Engineering Chemistry Research</i> , 2011, 50, 7172-7182.	3.7	20
39	Development and bioreactor cultivation of a novel semidifferentiated tissue suspension derived from the marine plant <i>Acrosiphonia coalita</i> . , 2000, 49, 559-567.		19
40	Thermal annealing activates amplified photoluminescence of germanium metabolically doped in diatom biosilica. <i>Journal of Materials Chemistry</i> , 2011, 21, 10658.	6.7	19
41	Environmental life cycle optimization of essential terpene oils produced by the macroalga <i>Ochtodes secundiramea</i> . <i>Science of the Total Environment</i> , 2016, 542, 292-305.	8.0	18
42	Photonic Crystal Enhanced SERS Detection of Analytes Separated by Ultrathin Layer Chromatography Using a Diatom Frustule Monolayer. <i>Advanced Materials Interfaces</i> , 2020, 7, 2000191.	3.7	18
43	The Potential of a Diatom-Based Photosynthetic Biorefinery for Biofuels and Valued Co-Products. <i>Current Biotechnology</i> , 2016, 5, 237-248.	0.4	17
44	Biogenic silica based Zn <sub>2</sub> SiO <sub>4</sub> :Mn <sup>2+</sup> and Y <sub>2</sub> SiO <sub>5</sub> :Eu <sup>3+</sup> phosphor layers patterned by inkjet printing process. <i>Journal of Materials Chemistry</i> , 2008, 18, 3633.	6.7	16
45	Effects of light intensity on the selectivity of lipid and chitin nanofiber production during photobioreactor cultivation of the marine diatom <i>Cyclotella</i> sp.. <i>Algal Research</i> , 2017, 25, 216-227.	4.6	16
46	Bromoperoxidase activity in microplantlet suspension cultures of the macrophytic red alga <i>Ochtodes secundiramea</i> . <i>Biotechnology and Bioengineering</i> , 2001, 74, 389-395.	3.3	15
47	Control of chitin nanofiber production by the lipid-producing diatom <i>Cyclotella</i> Sp. through fed-batch addition of dissolved silicon and nitrate in a bubble-column photobioreactor. <i>Biotechnology Progress</i> , 2017, 33, 407-415.	2.6	15
48	Effects of CO <sub>2</sub> delivery on fatty acid and chitin nanofiber production during photobioreactor cultivation of the marine diatom <i>Cyclotella</i> sp.. <i>Algal Research</i> , 2017, 26, 422-430.	4.6	15
49	Phosphate addition strategies for enhancing the co-production of lipid and chitin nanofibers during fed-batch cultivation of the diatom <i>Cyclotella</i> sp.. <i>Algal Research</i> , 2019, 38, 101403.	4.6	15
50	Multiscale Photonic Crystal Enhanced Core-Shell Plasmonic Nanomaterial for Rapid Vapor-Phase Detection of Explosives. <i>ACS Applied Nano Materials</i> , 2020, 3, 1656-1665.	5.0	13
51	Micro-photoluminescence of single living diatom cells. <i>Luminescence</i> , 2016, 31, 1379-1383.	2.9	12
52	Highly-porous diatom biosilica stationary phase for thin-layer chromatography. <i>Journal of Chromatography A</i> , 2019, 1591, 162-170.	3.7	11
53	Lipid and chitin nanofiber production during cultivation of the marine diatom <i>Cyclotella</i> sp. to high cell density with multistage addition of silicon and nitrate. <i>Journal of Applied Phycology</i> , 2017, 29, 1811-1818.	2.8	10
54	Formation of extracellular $\beta$ -chitin nanofibers during batch cultivation of marine diatom <i>Cyclotella</i> sp. at silicon limitation. <i>Journal of Applied Phycology</i> , 2019, 31, 3479-3490.	2.8	10

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55	Near-Infrared Selective and Angle-Independent Backscattering from Magnetite Nanoparticle-Decorated Diatom Frustules. <i>ACS Photonics</i> , 2014, 1, 477-482.	6.6	9
56	Isorhamnetin encapsulation into biogenic silica from <i>Cyclotella</i> sp. using a microfluidic device for drug delivery applications. <i>Biocatalysis and Agricultural Biotechnology</i> , 2019, 19, 101175.	3.1	9
57	Selective production of the acyclic monoterpene $\beta$ -myrcene by microplantlet suspension cultures of the macrophytic marine red alga <i>Ochtodes secundiramea</i> under nutrient perfusion cultivation with bromide-free medium. <i>Algal Research</i> , 2018, 36, 159-166.	4.6	7
58	Self-powered microfluidic pump using evaporation from diatom biosilica thin films. <i>Microfluidics and Nanofluidics</i> , 2020, 24, 1.	2.2	7
59	Bioenabled SERS substrates for food safety and drinking water monitoring. <i>Proceedings of SPIE</i> , 2015, 9488, .	0.8	6
60	Effects of nitrogen delivery on chitin nanofiber production during batch cultivation of the diatom <i>Cyclotella</i> sp. in a bubble column photobioreactor. <i>Journal of Applied Phycology</i> , 2018, 30, 1575-1581.	2.8	6
61	Changes in total lipid contents of marine diatom <i>Nitzschia frustulum</i> at various temperatures under Si deficiency. <i>Korean Journal of Chemical Engineering</i> , 2010, 27, 567-569.	2.7	5
62	Optimizing the Design of Diatom Biosilica-Targeted Fusion Proteins in Biosensor Construction for <i>Bacillus anthracis</i> Detection. <i>Biology</i> , 2020, 9, 14.	2.8	4
63	Blue Luminescent Biogenic Silicon-Germanium Oxide Nanocomposites. <i>Materials Research Society Symposia Proceedings</i> , 2005, 873, 1.	0.1	3
64	Biosynthesis and extrusion of $\beta$ -chitin nanofibers by diatoms. , 2019, , 129-150.		2
65	Peptide-Mediated Deposition of Nanostructured TiO <sub>2</sub> into the Periodic Structure of Diatom Biosilica and its Integration into the Fabrication of a Dye-Sensitized Solar Cell Device. <i>Materials Research Society Symposia Proceedings</i> , 2009, 1189, 1.	0.1	1
66	Limits to biomass productivity during fed-batch cultivation of <i>Laminaria saccharina</i> female gametophyte cells in a stirred-tank photobioreactor. <i>Journal of Applied Phycology</i> , 2021, 33, 1011-1019.	2.8	1
67	Immobilization and growth of clonal tissue fragments from the macrophytic red alga <i>Gracilaria vermiculophylla</i> on porous mesh panels. <i>Journal of Applied Phycology</i> , 2021, 33, 2407-2414.	2.8	1
68	Cultivation of the macrophytic red alga <i>Palmaria mollis</i> (Pacific dulse) on vertical arrays of mesh panels in aerated tanks. <i>Journal of Applied Phycology</i> , 2021, 33, 3915-3926.	2.8	1
69	High density cultivation and CO <sub>2</sub> uptake by panel arrays of the macrophytic red alga <i>Gracilaria vermiculophylla</i> in a 100 L raceway pond. <i>Algal Research</i> , 2022, 65, 102726.	4.6	1
70	Biosynthesis and Electron Microscopy Characterization of Diatom Nanocomposites. <i>Materials Research Society Symposia Proceedings</i> , 2005, 901, 1.	0.1	0
71	Novel form of photonic crystals for bioimaging contrast enhancement. , 2011, , .		0
72	Soluble germanium addition to silicon-starved cultures of the diatom <i>Cyclotella</i> sp. limits $\beta$ -chitin nanofiber formation. <i>Journal of Applied Phycology</i> , 2020, 32, 901-907.	2.8	0

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73	Immobilized cultivation of the red macroalga <i>Ochtodes secundiramea</i> via fluid injection of clonal shoot tissues onto porous mesh panels. <i>Algal Research</i> , 2021, 55, 102287.	4.6	0