

# Frank X Gu

## List of Publications by Year in descending order

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115  
papers

12,162  
citations

66250

44  
h-index

28425

109  
g-index

122  
all docs

122  
docs citations

122  
times ranked

21618  
citing authors

#	ARTICLE	IF	CITATIONS
1	Selective photocatalytic reduction of selenate over TiO <sub>2</sub> in the presence of nitrate and sulfate in mine-impacted water. <i>Chemosphere</i> , 2022, 287, 131951.	4.2	7
2	Investigating the Molecular Mechanism of Protein-Polymer Binding with Direct Saturation Compensated Nuclear Magnetic Resonance. <i>Biomacromolecules</i> , 2022, 23, 67-76.	2.6	5
3	Theoretical framework and experimental methodology to elucidate the supersaturation dynamics of nanocrystal growth. <i>Nanoscale Horizons</i> , 2022, 7, 376-384.	4.1	2
4	Untangling Mucosal Drug Delivery: Engineering, Designing, and Testing Nanoparticles to Overcome the Mucus Barrier. <i>ACS Biomaterials Science and Engineering</i> , 2022, 8, 1396-1426.	2.6	28
5	Transport and targeted binding of Pluronic-coated nanoparticles in unsaturated porous media. <i>Journal of Contaminant Hydrology</i> , 2022, 249, 104046.	1.6	2
6	From prevention to diagnosis and treatment: Biomedical applications of metal nanoparticle-hydrogel composites. <i>Acta Biomaterialia</i> , 2021, 122, 1-25.	4.1	57
7	Heterogeneity in transmissibility and shedding SARS-CoV-2 via droplets and aerosols. <i>ELife</i> , 2021, 10, .	2.8	106
8	SARS-CoV-2 shedding dynamics across the respiratory tract, sex, and disease severity for adult and pediatric COVID-19. <i>ELife</i> , 2021, 10, .	2.8	44
9	Understanding why superspreading drives the COVID-19 pandemic but not the H1N1 pandemic. <i>Lancet Infectious Diseases</i> , The, 2021, 21, 1203-1204.	4.6	38
10	Influence of Pluronic coating formulation on iron oxide nanoparticle transport in natural and oil-impacted sandy aquifer media. <i>Canadian Journal of Chemical Engineering</i> , 2020, 98, 642-649.	0.9	9
11	Nanostructured and Spiky Gold Shell Growth on Magnetic Particles for SERS Applications. <i>Nanomaterials</i> , 2020, 10, 2136.	1.9	8
12	Light propagation within N95 filtered face respirators: A simulation study for UVC decontamination. <i>Journal of Biophotonics</i> , 2020, 13, e202000232.	1.1	10
13	Characterizing internal cavity modulation of corn starch microcapsules. <i>Heliyon</i> , 2020, 6, e05294.	1.4	5
14	Enhanced photocatalytic selectivity of noble metallized TiO <sub>2</sub> nanoparticles for the reduction of selenate in water: tunable Se reduction product H <sub>2</sub> Se(g) vs. Se(s). <i>Environmental Science: Nano</i> , 2020, 7, 1841-1852.	2.2	10
15	Factors affecting pluronic-coated iron oxide nanoparticle binding to petroleum hydrocarbon-impacted sediments. <i>Chemosphere</i> , 2020, 254, 126732.	4.2	10
16	Helium Ion Microscopy of Corn Starch. <i>Starch/Staerke</i> , 2020, 72, 1900267.	1.1	1
17	Can the toxicity of naphthenic acids in oil sands process-affected water be mitigated by a green photocatalytic method?. <i>Facets</i> , 2020, 5, 474-487.	1.1	6
18	Decontamination of N95 masks for re-use employing 7 widely available sterilization methods. <i>PLoS ONE</i> , 2020, 15, e0243965.	1.1	54

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19	Gold Nanoparticles for Colorimetric Detection of Pathogens. , 2019, , 108-115.		0
20	Low-Fouling Characteristics of Ultrathin Zwitterionic Cysteine SAMs. Langmuir, 2019, 35, 1756-1767.	1.6	18
21	Extracellular Vesicles from Interferon- $\beta$ -primed Human Umbilical Cord Mesenchymal Stromal Cells Reduce <i>Escherichia coli</i> -induced Acute Lung Injury in Rats. Anesthesiology, 2019, 130, 778-790.	1.3	73
22	Targeted nanoparticle binding & detection in petroleum hydrocarbon impacted porous media. Chemosphere, 2019, 215, 353-361.	4.2	16
23	Real-time monitoring of nanoscale TiO <sub>2</sub> concentration by spectrophotometry: implications of agglomeration due to natural organic matter and multivalent ions. Environmental Technology (United Kingdom), 2019, 40, 1821-1830.	1.2	0
24	Structure-reactivity relationship of naphthenic acids in the photocatalytic degradation process. Chemosphere, 2018, 200, 180-190.	4.2	20
25	Spiky gold shells on magnetic particles for DNA biosensors. Talanta, 2018, 182, 259-266.	2.9	15
26	Magnetic flocculation for nanoparticle separation and catalyst recycling. Environmental Science: Nano, 2018, 5, 509-519.	2.2	19
27	Sensing Coated Iron-Oxide Nanoparticles with Spectral Induced Polarization (SIP): Experiments in Natural Sand Packed Flow-Through Columns. Environmental Science & Technology, 2018, 52, 14256-14265.	4.6	19
28	Petroleomic analysis of the treatment of naphthenic organics in oil sands process-affected water with buoyant photocatalysts. Water Research, 2018, 141, 297-306.	5.3	20
29	Functional Two- and Three-Dimensional Architectures of Immobilized Metal Nanoparticles. Chem, 2018, 4, 2301-2328.	5.8	14
30	Floating Photocatalysts for Passive Solar Degradation of Naphthenic Acids in Oil Sands Process-Affected Water. Water (Switzerland), 2018, 10, 202.	1.2	22
31	Bacterial Networks on Hydrophobic Micropillars. ACS Nano, 2017, 11, 675-683.	7.3	25
32	Controllable Microfluidic Production of Drug-Loaded PLGA Nanoparticles Using Partially Water-Miscible Mixed Solvent Microdroplets as a Precursor. Scientific Reports, 2017, 7, 4794.	1.6	74
33	Mechanical Contact Characteristics of PC3 Human Prostate Cancer Cells on Complex-Shaped Silicon Micropillars. Materials, 2017, 10, 892.	1.3	6
34	Discrimination of Proteins Using an Array of Surfactant-Stabilized Gold Nanoparticles. Langmuir, 2016, 32, 7621-7629.	1.6	23
35	Interactions between bacterial surface and nanoparticles govern the performance of $\alpha$ -chemochemical nose biosensors. Biosensors and Bioelectronics, 2016, 83, 115-125.	5.3	30
36	Photocatalytic degradation kinetics of naphthenic acids in oil sands process-affected water: Multifactorial determination of significant factors. Chemosphere, 2016, 165, 10-17.	4.2	21

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37	Prolonged Ocular Retention of Mucoadhesive Nanoparticle Eye Drop Formulation Enables Treatment of Eye Diseases Using Significantly Reduced Dosage. <i>Molecular Pharmaceutics</i> , 2016, 13, 2897-2905.	2.3	64
38	Emerging nanomaterials for the application of selenium removal for wastewater treatment. <i>Environmental Science: Nano</i> , 2016, 3, 982-996.	2.2	80
39	A "chemical nose" biosensor for detecting proteins in complex mixtures. <i>Analyst, The</i> , 2016, 141, 5627-5636.	1.7	14
40	Nanotechnology and Nanomaterials in Ophthalmic Drug Delivery. , 2016, , 83-109.		7
41	Towards point-of-care detection of polymicrobial infections: Rapid colorimetric response using a portable spectrophotometer. <i>Sensing and Bio-Sensing Research</i> , 2016, 10, 15-19.	2.2	12
42	Hollow Mesoporous Silica Nanocarriers with Multifunctional Capping Agents for In Vivo Cancer Imaging and Therapy. <i>Small</i> , 2016, 12, 360-370.	5.2	47
43	Solar photocatalytic degradation of naphthenic acids in oil sands process-affected water. <i>Chemosphere</i> , 2016, 144, 1854-1861.	4.2	44
44	Adhesion characteristics of <i>Staphylococcus aureus</i> bacterial cells on funnel-shaped palladium-cobalt alloy nanostructures. <i>Journal of Experimental Nanoscience</i> , 2016, 11, 480-489.	1.3	2
45	Trapping polystyrene and latex nanospheres inside hollow nanostructures using <i>Staphylococcus aureus</i> cells. <i>Journal of Experimental Nanoscience</i> , 2016, 11, 303-313.	1.3	0
46	Optimization of Polydiacetylene-Coated Superparamagnetic Magnetite Biosensor for Colorimetric Detection of Biomarkers. <i>Journal of Nanoscience and Nanotechnology</i> , 2015, 15, 2628-2633.	0.9	2
47	An Experimental and Theoretical Approach to Investigate the Effect of Chain Length on Aminothiols Adsorption and Assembly on Gold. <i>Chemistry - A European Journal</i> , 2015, 21, 14555-14561.	1.7	27
48	Tip-enhanced fluorescence with radially polarized illumination for monitoring loop-mediated isothermal amplification on Hepatitis C virus cDNA. <i>Journal of Biomedical Optics</i> , 2015, 20, 027005.	1.4	5
49	Colorimetric biosensing of pathogens using gold nanoparticles. <i>Biotechnology Advances</i> , 2015, 33, 666-680.	6.0	163
50	<i>Vibrio cholerae</i> Represses Polysaccharide Synthesis To Promote Motility in Mucosa. <i>Infection and Immunity</i> , 2015, 83, 1114-1121.	1.0	25
51	Characteristic investigation of scanning surface plasmon microscopy for nucleotide functionalized nanoarray. <i>Optics Express</i> , 2015, 23, 20104.	1.7	1
52	Size-Tunable Fe <sub>3</sub> O <sub>4</sub> Spherical Nanoclusters Through a One-Pot Hydrothermal Synthesis. <i>Journal of Nanoscience and Nanotechnology</i> , 2015, 15, 5378-5383.	0.9	19
53	Controlling "chemical nose" biosensor characteristics by modulating gold nanoparticle shape and concentration. <i>Sensing and Bio-Sensing Research</i> , 2015, 5, 13-18.	2.2	14
54	Phenylboronic acid modified mucoadhesive nanoparticle drug carriers facilitate weekly treatment of experimentally induced dry eye syndrome. <i>Nano Research</i> , 2015, 8, 621-635.	5.8	40

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55	Magnetically Recyclable Nanomaterials for Water Treatment. Lecture Notes in Nanoscale Science and Technology, 2014, , 225-259.	0.4	2
56	<i>In vitro</i> uptake and release of natamycin Dex-PLA nanoparticles from model contact lens materials. Journal of Biomaterials Science, Polymer Edition, 2014, 25, 18-31.	1.9	32
57	Effect of SAM chain length and binding functions on protein adsorption: $\beta$ -Lactoglobulin and apo-transferrin on gold. Colloids and Surfaces B: Biointerfaces, 2014, 116, 489-496.	2.5	29
58	Responses of Staphylococcus aureus bacterial cells to nanocrystalline nickel nanostructures. Biomaterials, 2014, 35, 4249-4254.	5.7	26
59	Programmable Redox State of the Nickel Ion Chain in DNA. Nano Letters, 2014, 14, 1026-1031.	4.5	17
60	Branching and size of CTAB-coated gold nanostars control the colorimetric detection of bacteria. RSC Advances, 2014, 4, 10660-10668.	1.7	48
61	Recyclable Graphene Oxide-Supported Titanium Dioxide Photocatalysts with Tunable Properties. ACS Applied Materials & Interfaces, 2014, 6, 4658-4668.	4.0	77
62	Chemical nose for the visual identification of emerging ocular pathogens using gold nanostars. Biosensors and Bioelectronics, 2014, 61, 386-390.	5.3	40
63	Nonfouling Property of Zwitterionic Cysteine Surface. Langmuir, 2014, 30, 6497-6507.	1.6	50
64	Magnetic Force Microscopy Characterization of Superparamagnetic Iron Oxide Nanoparticles (SPIONs). Nano Biomedicine and Engineering, 2014, 6, .	0.3	16
65	Hydrogenation processing of $\text{TiO}_2$ nanoparticles. Canadian Journal of Chemical Engineering, 2013, 91, 799-807.	0.9	33
66	Synthesis of Magnetic Rattle-Type Nanostructures for Use in Water Treatment. ACS Applied Materials & Interfaces, 2013, 5, 2540-2548.	4.0	47
67	Controlled root targeted delivery of fertilizer using an ionically crosslinked carboxymethyl cellulose hydrogel matrix. SpringerPlus, 2013, 2, 318.	1.2	91
68	Development of a colorimetric, superparamagnetic biosensor for the capture and detection of biomolecules. Biosensors and Bioelectronics, 2013, 42, 12-16.	5.3	15
69	Photocatalytic Activity of Hydrogenated $\text{TiO}_2$ . ACS Applied Materials & Interfaces, 2013, 5, 1892-1895.	4.0	257
70	Magnetically Separable Water Treatment Technologies and their Role in Future Advanced Water Treatment: A Patent Review. Clean - Soil, Air, Water, 2013, 41, 1152-1156.	0.7	43
71	Improving biocompatibility by surface modification techniques on implantable bioelectronics. Biosensors and Bioelectronics, 2013, 47, 451-460.	5.3	58
72	Human Serum Lipoproteins Influence Protein Deposition Patterns on Nanoparticle Surfaces. ACS Applied Materials & Interfaces, 2013, 5, 489-493.	4.0	5

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73	<i>In vitro</i>and<i>ex vivo</i>evaluation of silica-coated super paramagnetic iron oxide nanoparticles (SPION) as biomedical photoacoustic contrast agent. Proceedings of SPIE, 2013, , .	0.8	1
74	Mesoporous Magnetically Recyclable Photocatalysts for Water Treatment. Journal of Nanoscience and Nanotechnology, 2013, 13, 3127-3132.	0.9	14
75	Superparamagnetic iron oxide nanoparticles (SPIONs): synthesis and surface modification techniques for use with MRI and other biomedical applications. Current Pharmaceutical Design, 2013, 19, 493-509.	0.9	22
76	Silica-coated super paramagnetic iron oxide nanoparticles (SPION) as biocompatible contrast agent in biomedical photoacoustics. Biomedical Optics Express, 2012, 3, 2500.	1.5	107
77	LIGHT-INDUCED AGGREGATION OF NANOPARTICLES FUNCTIONALIZED WITH 7-AMINO-4-METHYLCUMARIN. Nano LIFE, 2012, 02, 1241007.	0.6	1
78	Mesoporous Hollow Sphere Titanium Dioxide Photocatalysts through Hydrothermal Silica Etching. ACS Applied Materials & Interfaces, 2012, 4, 6062-6070.	4.0	67
79	Development of Mucoadhesive Drug Delivery System Using Phenylboronic Acid Functionalized Poly(<sc>D</sc>,<sc>L</sc>â€lactide)â€b</i>â€Dextran Nanoparticles. Macromolecular Bioscience, 2012, 12, 1622-1626.	2.1	26
80	Study of Tissue Phantoms, Tissues, and Contrast Agent with the Biophotoacoustic Radar and Comparison to Ultrasound Imaging for Deep Subsurface Imaging. International Journal of Thermophysics, 2012, 33, 1808-1813.	1.0	1
81	Synthesis of curdlan-<i>graft</i>-poly(ethylene glycol) and formulation of doxorubicin-loaded coreâ€shell nanoparticles. Journal of Bioactive and Compatible Polymers, 2012, 27, 3-17.	0.8	26
82	Materials for Sustained and Controlled Release of Nutrients and Molecules To Support Plant Growth. Journal of Agricultural and Food Chemistry, 2012, 60, 870-876.	2.4	140
83	Surface Plasmon Resonance Biosensors Incorporating Gold Nanoparticles. Macromolecular Bioscience, 2012, 12, 724-739.	2.1	112
84	Nanomaterials for Ocular Drug Delivery. Macromolecular Bioscience, 2012, 12, 608-620.	2.1	153
85	Multi-phase ionotropic liquid crystalline gels with controlled architecture by self-assembly of biopolymers. Carbohydrate Polymers, 2012, 87, 1881-1885.	5.1	4
86	Microwave-enhanced reductive amination via Schiff's base formation for block copolymer synthesis. Carbohydrate Polymers, 2012, 87, 2740-2744.	5.1	10
87	Iron oxide nanoparticles for targeted cancer imaging and diagnostics. Nanomedicine: Nanotechnology, Biology, and Medicine, 2012, 8, 275-290.	1.7	275
88	Size-tunable nanoparticles composed of dextran-b-poly(D,L-lactide) for drug delivery applications. Nano Research, 2012, 5, 49-61.	5.8	64
89	Pharmacological, Structural, and Drug Delivery Properties and Applications of 1,3-Î²-Glucans. Journal of Agricultural and Food Chemistry, 2011, 59, 6813-6828.	2.4	112
90	Surface Functionalization of Silica Nanoparticles with Cysteine: A Low-Fouling Zwitterionic Surface. Langmuir, 2011, 27, 10507-10513.	1.6	112

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91	Early diagnosis of sepsis using serum biomarkers. <i>Expert Review of Molecular Diagnostics</i> , 2011, 11, 487-496.	1.5	88
92	Emerging nanomaterials for targeting subcellular organelles. <i>Nano Today</i> , 2011, 6, 478-492.	6.2	129
93	CH50: A Revisited Hemolytic Complement Consumption Assay for Evaluation of Nanoparticles and Blood Plasma Protein Interaction. <i>Current Drug Delivery</i> , 2011, 8, 290-298.	0.8	30
94	ChemoRad nanoparticles: a novel multifunctional nanoparticle platform for targeted delivery of concurrent chemoradiation. <i>Nanomedicine</i> , 2010, 5, 361-368.	1.7	95
95	Nanoparticles for Cancer Diagnosis and Therapy. <i>Nanostructure Science and Technology</i> , 2009, , 209-235.	0.1	5
96	Formulation/Preparation of Functionalized Nanoparticles for In Vivo Targeted Drug Delivery. <i>Methods in Molecular Biology</i> , 2009, 544, 589-598.	0.4	48
97	Superparamagnetic Iron Oxide Nanoparticle-aptamer Bioconjugates for Combined Prostate Cancer Imaging and Therapy. <i>ChemMedChem</i> , 2008, 3, 1311-1315.	1.6	297
98	Biofunctionalized targeted nanoparticles for therapeutic applications. <i>Expert Opinion on Biological Therapy</i> , 2008, 8, 1063-1070.	1.4	225
99	Nanoparticles in Medicine: Therapeutic Applications and Developments. <i>Clinical Pharmacology and Therapeutics</i> , 2008, 83, 761-769.	2.3	2,156
100	Microfluidic Platform for Controlled Synthesis of Polymeric Nanoparticles. <i>Nano Letters</i> , 2008, 8, 2906-2912.	4.5	728
101	Self-Assembled Lipid-Polymer Hybrid Nanoparticles: A Robust Drug Delivery Platform. <i>ACS Nano</i> , 2008, 2, 1696-1702.	7.3	851
102	Targeted delivery of cisplatin to prostate cancer cells by aptamer functionalized Pt(IV) prodrug-PLGA-PEG nanoparticles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 17356-17361.	3.3	904
103	Microfluidic Synthesis of Polymeric Nanoparticles. , 2008, , .		3
104	Precise engineering of targeted nanoparticles by using self-assembled biointegrated block copolymers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 2586-2591.	3.3	649
105	Maintenance of vascular endothelial growth factor and potentially other therapeutic proteins bioactivity during a photo-initiated free radical cross-linking reaction forming biodegradable elastomers. <i>European Journal of Pharmaceutics and Biopharmaceutics</i> , 2007, 66, 21-27.	2.0	29
106	Co-Delivery of Hydrophobic and Hydrophilic Drugs from Nanoparticle-aptamer Bioconjugates. <i>ChemMedChem</i> , 2007, 2, 1268-1271.	1.6	245
107	Tetanus toxin C fragment-conjugated nanoparticles for targeted drug delivery to neurons. <i>Biomaterials</i> , 2007, 28, 5176-5184.	5.7	89
108	Targeted nanoparticles for cancer therapy. <i>Nano Today</i> , 2007, 2, 14-21.	6.2	431

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109	Sustained release of bioactive therapeutic proteins from a biodegradable elastomeric device. Journal of Controlled Release, 2007, 117, 80-89.	4.8	55
110	Formulation of functionalized PLGA-PEG nanoparticles for in vivo targeted drug delivery. Biomaterials, 2007, 28, 869-876.	5.7	1,151
111	Osmotic-Driven Release Kinetics of Bioactive Therapeutic Proteins from a Biodegradable Elastomer are Linear, Constant, Similar, and Adjustable. Pharmaceutical Research, 2006, 23, 782-789.	1.7	24
112	Sustained interferon- $\beta$ delivery from a photocrosslinked biodegradable elastomer. Journal of Controlled Release, 2005, 102, 607-617.	4.8	57
113	Sustained delivery of vascular endothelial growth factor with alginate beads. Journal of Controlled Release, 2004, 96, 463-472.	4.8	223
114	Synthesis and Characterization of A Photo-Cross-Linked Biodegradable Elastomer. Biomacromolecules, 2004, 5, 2479-2486.	2.6	119
115	Scanning Surface Plasmon Microscope for Sensing Lipid Array and Au Film Defect. Applied Mechanics and Materials, 0, 870, 21-26.	0.2	0