

Francis Opoku

List of Publications by Year in descending order

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69
papers

1,960
citations

361045

20
h-index

264894

42
g-index

72
all docs

72
docs citations

72
times ranked

2366
citing authors

#	ARTICLE	IF	CITATIONS
1	Atomistic insight into the significantly enhanced photovoltaic cells of monolayer GaTe ₂ via two-dimensional van der Waals heterostructures engineering. ChemistrySelect, 2022, 7, 629-644.	0.7	0
2	Enhancing the photocatalytic hydrogen generation performance and strain regulation of the vertical Ge ₂ /C ₂ N van der Waals heterostructure: insights from first-principles study. Energy Advances, 2022, 1, 146-158.	1.4	15
3	Boosting the photocatalytic H ₂ evolution activity of type-II g-GaN/Sc ₂ CO ₂ van der Waals heterostructure using applied biaxial strain and external electric field. RSC Advances, 2022, 12, 7391-7402.	1.7	15
4	Effect of van der Waals stacking in CdS monolayer on enhancing the hydrogen production efficiency of SiH monolayer. Materials Advances, 2022, 3, 4629-4640.	2.6	8
5	Exploring the Optical, Structural and Electronic Properties of a Two-Dimensional GaSe/C ₂ N van der Waals Heterostructure As a Photovoltaic Cell: A Computational Investigation. Journal of Electronic Materials, 2021, 50, 620-628.	1.0	5
6	Remarkable Enhancement of Eu ³⁺ /TiO ₂ @GO Composite for Photodegradation of Indigo Carmine: A Design Method Based on Computational and Experimental Perspectives. Catalysis Letters, 2021, 151, 1111-1126.	1.4	14
7	Prospective of functionalized nanomaterials in environmental science: A nanotechnological approach. , 2021, , 13-60.		1
8	Electro-catalytic amplified sensor for determination of N-acetylcysteine in the presence of theophylline confirmed by experimental coupled theoretical investigation. Scientific Reports, 2021, 11, 1006.	1.6	4
9	Electrochemical detection of amoxicillin on 2D graphene-gold nanoparticle-Lacasse bio-interfaces: Combined experimental and theoretical study. Chemical Physics Letters, 2021, 764, 138278.	1.2	12
10	Insights into the complementary behaviour of Gd doping in GO/Gd/ZnO composites as an efficient candidate towards photocatalytic degradation of indigo carmine dye. Journal of Materials Science, 2021, 56, 8511-8527.	1.7	16
11	MoS ₂ Nanosheet/ZnS Composites for the Visible-Light-Assisted Photocatalytic Degradation of Oxytetracycline. ACS Applied Nano Materials, 2021, 4, 4721-4734.	2.4	61
12	SF ₆ decomposed gas sensing performance of van der Waals layered cobalt oxyhydroxide: insights from a computational study. Journal of Molecular Modeling, 2021, 27, 158.	0.8	0
13	2 Atomistic insight into the significantly enhanced photovoltaic cells of monolayer GaTe ₂ via two-dimensional van der Waals heterostructures engineering. , 2021, , 15-32.		0
14	Developing a simple box-behnen experimental design on the removal of doxorubicin anticancer drug using Fe ₃ O ₄ /graphene nanoribbons adsorbent. Environmental Research, 2021, 200, 111522.	3.7	29
15	Defect-engineered two-dimensional layered gallium sulphide molecular gas sensors with ultrahigh selectivity and sensitivity. Applied Surface Science, 2021, 562, 150188.	3.1	18
16	A comprehensive evaluation of surface water quality and potential health risk assessments of Sisa river, Kumasi. Groundwater for Sustainable Development, 2021, 15, 100654.	2.3	22
17	Two-dimensional layered type-II MS ₂ /BiOCl (M = Zr, Hf) van der Waals heterostructures: promising photocatalysts for hydrogen generation. New Journal of Chemistry, 2021, 45, 20365-20373.	1.4	12
18	Mineral and proximate composition of the meat and shell of three snail species. Heliyon, 2021, 7, e08149.	1.4	12

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19	Heavy metal contamination and health risk assessment of mechanically milled delicacy called fufu. International Journal of Food Contamination, 2021, 8, .	2.2	9
20	The role of magnetite/graphene oxide nano-composite as a high-efficiency adsorbent for removal of phenazopyridine residues from water samples, an experimental/theoretical investigation. Journal of Molecular Liquids, 2020, 298, 112040.	2.3	319
21	Computational screening of vdWs heterostructures of BSe with MoSe ₂ and WSe ₂ as sustainable hydrogen production materials. Current Applied Physics, 2020, , .	1.1	1
22	Composite 2D Nanointerfaces for Electrochemical Biosensing: An Experimental and Theoretical Study. ACS Applied Bio Materials, 2020, 3, 8676-8687.	2.3	3
23	Two-dimensional CoOOH as a Highly Sensitive and Selective H ₂ S, HCN and HF Gas Sensor: A Computational Investigation. Electroanalysis, 2020, 32, 2764-2774.	1.5	8
24	Adsorption behaviour of Si anchored on g-C ₃ N ₄ /graphene van der Waals heterostructure for selective sensing of toxic gases: Insights from a first-principles study. Applied Surface Science, 2020, 525, 146590.	3.1	24
25	Tuning the electronic, optical and structural properties of GaS/C ₂ N van der Waals heterostructure for photovoltaic application: first-principle calculations. SN Applied Sciences, 2020, 2, 1.	1.5	16
26	Highly Selective and Sensitive Detection of Formaldehyde by I ₂ -Borophene/SnO ₂ Heterostructures: The Role of an External Electric Field and In-Plane Biaxial Strain. Journal of Physical Chemistry A, 2020, 124, 2288-2300.	1.1	29
27	Electrochemical anticancer drug sensor for determination of raloxifene in the presence of tamoxifen using graphene-CuO-polypyrrole nanocomposite structure modified pencil graphite electrode: Theoretical and experimental investigation. Journal of Molecular Liquids, 2020, 311, 113314.	2.3	24
28	Nanotechnology for Water and Wastewater Treatment Using Graphene Semiconductor Composite Materials. Environmental Chemistry for A Sustainable World, 2020, , 1-34.	0.3	3
29	One-step synthesized 2D heteroatom doped graphene for high throughput electrochemical biosensing: A combined experimental and computational studies. Diamond and Related Materials, 2019, 100, 107592.	1.8	10
30	Experimental and Computational Design of Highly Active Ce-ZrO ₂ -GO Photocatalyst for Eosin Yellow Dye Degradation: The Role of Interface and Ce ³⁺ Ion. Catalysis Letters, 2019, 149, 1633-1650.	1.4	18
31	Heavy metal contamination assessment of groundwater quality: a case study of Oti landfill site, Kumasi. Applied Water Science, 2019, 9, 1.	2.8	116
32	High-Throughput 2D Heteroatom Graphene Bioelectronic Nanosculpture: A Combined Experimental and Theoretical Study. ACS Applied Materials & Interfaces, 2019, 11, 11238-11250.	4.0	5
33	Evaluating Iso-Mukaadial Acetate and Ursolic Acid Acetate as Plasmodium falciparum Hypoxanthine-Guanine-Xanthine Phosphoribosyltransferase Inhibitors. Biomolecules, 2019, 9, 861.	1.8	13
34	Tuning the electronic properties and interfacial interactions of WS ₂ /ZrO ₂ (001) heterostructures by an external electric field, interlayer coupling and monolayer to few-layer of WS ₂ sheets. Materials Chemistry and Physics, 2019, 224, 107-116.	2.0	9
35	Hierarchically assembled two-dimensional gold boron nitride-tungsten disulphide nanohybrid interface system for electrobiocatalytic applications. Materials Chemistry and Physics, 2019, 226, 129-140.	2.0	9
36	Tuning the electronic and structural properties of Gd-TiO ₂ -GO nanocomposites for enhancing photodegradation of IC dye: The role of Gd ³⁺ ion. Applied Catalysis B: Environmental, 2019, 243, 106-120.	10.8	60

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37	Heavy metals concentration and human health risk assessment in seven commercial fish species from Asafo Market, Ghana. <i>Food Science and Biotechnology</i> , 2019, 28, 569-579.	1.2	40
38	Assessment of Total Mercury in Hair, Urine and Fingernails of Small-Scale Gold Miners in the Amansie West District, Ghana. <i>Journal of Health and Pollution</i> , 2019, 9, 190306.	1.8	16
39	Photodegradation of Eosin Yellow Dye in Water under Simulated Solar Light Irradiation Using La ³⁺ -Doped ZnO Nanostructure Decorated on Graphene Oxide as an Advanced Photocatalyst. <i>ChemistrySelect</i> , 2018, 3, 1180-1188.	0.7	23
40	Tuning the electronic structures, work functions, optical properties and stability of bifunctional hybrid graphene oxide/V ⁵⁺ -doped NaNbO ₃ type-II heterostructures: A promising photocatalyst for H ₂ production. <i>Carbon</i> , 2018, 136, 187-195.	5.4	36
41	Understanding the synergistic effects, optical and electronic properties of ternary Fe/C/S ²⁺ -doped TiO ₂ anatase within the DFT + U approach. <i>International Journal of Quantum Chemistry</i> , 2018, 118, e25505.	1.0	12
42	Insights into the photocatalytic mechanism of mediator-free direct Z-scheme g-C ₃ N ₄ /Bi ₂ MoO ₆ (010) and g-C ₃ N ₄ /Bi ₂ WO ₆ (010) heterostructures: A hybrid density functional theory study. <i>Applied Surface Science</i> , 2018, 427, 487-498.	3.1	125
43	Hybrid DFT study of MWCNT/Zr-doped SrTiO ₃ heterostructure: Hydrogen production, electronic properties and charge Carrier mediator role of Zr ⁴⁺ -ion. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 22253-22264.	3.8	11
44	Quality of leachate from the Oti Landfill Site and its effects on groundwater: a case history. <i>Environmental Earth Sciences</i> , 2018, 77, 1.	1.3	7
45	Determination of lead and cadmium contents in lipstick and their potential health risks to consumers. <i>Journal Fur Verbraucherschutz Und Lebensmittelsicherheit</i> , 2018, 13, 367-373.	0.5	18
46	Phytocompounds, Heavy Metal and Mineral Contents in honey Samples from Selected Markets in the Kumasi Metropolis. <i>Emerging Science Journal</i> , 2018, 2, 287.	1.4	14
47	Recent Progress in the Development of Semiconductor-Based Photocatalyst Materials for Applications in Photocatalytic Water Splitting and Degradation of Pollutants. <i>Advanced Sustainable Systems</i> , 2017, 1, 1700006.	2.7	144
48	Charge transport, interfacial interactions and synergistic mechanisms in BiNbO ₄ /MWO ₄ (M = Zn and Cd) heterostructures for hydrogen production: insights from a DFT+U study. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 28401-28413.	1.3	19
49	Enhancing photocatalytic activity for hydrogen production and pollutant degradation by modifying tetragonal ZrO ₂ with monolayers slab surface of BiVO ₄ , Ag ₃ PO ₄ , SrTiO ₃ and WO ₃ : A first-principles study. <i>Computational Materials Science</i> , 2017, 138, 462-473.	1.4	16
50	Enhancing Charge Separation and Photocatalytic Activity of Cubic SrTiO ₃ with Perovskite-Type Materials MTaO ₃ (M=Na, K) for Environmental Remediation: A First-Principles Study. <i>ChemistrySelect</i> , 2017, 2, 6304-6316.	0.7	29
51	Understanding the mechanism of enhanced charge separation and visible light photocatalytic activity of modified wurtzite ZnO with nanoclusters of ZnS and graphene oxide: from a hybrid density functional study. <i>New Journal of Chemistry</i> , 2017, 41, 8140-8155.	1.4	69
52	Assessment of pollution levels, potential ecological risk and human health risk of heavy metals/metalloids in dust around fuel filling stations from the Kumasi Metropolis, Ghana. <i>Cogent Environmental Science</i> , 2017, 3, 1412153.	1.6	30
53	Role of MoS ₂ and WS ₂ monolayers on photocatalytic hydrogen production and the pollutant degradation of monoclinic BiVO ₄ : a first-principles study. <i>New Journal of Chemistry</i> , 2017, 41, 11701-11713.	1.4	48
54	Human health risk assessment of cyanide levels in water and tuber crops from Kenyasi, a mining community in the Brong Ahafo Region of Ghana. <i>International Journal of Food Contamination</i> , 2017, 4,	2.2	12

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55	Mercury and hydroquinone content of skin toning creams and cosmetic soaps, and the potential risks to the health of Ghanaian women. SpringerPlus, 2016, 5, 319.	1.2	34
56	Risk assessment of mineral and heavy metal content of selected tea products from the Ghanaian market. Environmental Monitoring and Assessment, 2016, 188, 332.	1.3	53
57	Characterization of Beauty Salon Wastewater from Kwame Nkrumah University of Science and Technology, Kumasi, Ghana, and Its Surrounding Communities. Environmental Health Insights, 2016, 10, EHI.S40360.	0.6	11
58	A comprehensive understanding of the chemical vapour deposition of cadmium chalcogenides using Cd[(C ₆ H ₅) ₂ PSSe] ₂ single-source precursor: a density functional theory approach. Chemistry Central Journal, 2016, 10, 4.	2.6	2
59	Groundwater quality assessment using statistical approach and water quality index in Ejisu-Juaben Municipality, Ghana. Environmental Earth Sciences, 2016, 75, 1.	1.3	137
60	Concentrations, hydrochemistry and risk evaluation of selected heavy metals along the Jimi River and its tributaries at Obuasi a mining enclave in Ghana. Environmental Systems Research, 2015, 4, .	1.5	20
61	Thermal decomposition of Zn[(C ₆ H ₅) ₂ PSSe] ₂ single-source precursor for the chemical vapour deposition of binary and ternary zinc chalcogenides: a theoretical study. SpringerPlus, 2015, 4, 266.	1.2	6
62	Mercury in Different Tissues of Grey Herons (<i>Ardea cinerea</i>) from the Volta Lake, Ghana. Journal of Marine Science: Research & Development, 2015, 06, .	0.4	0
63	Theoretical study of the gas-phase decomposition of Pb[(C ₆ H ₅) ₂ PSSe] ₂ single-source precursor for the chemical vapour deposition of binary and ternary lead chalcogenides. Canadian Journal of Chemistry, 2015, 93, 317-325.	0.6	7
64	Pollution evaluation, sources and risk assessment of heavy metals in hand-dug wells from Ejisu-Juaben Municipality, Ghana. Environmental Systems Research, 2015, 4, .	1.5	65
65	Theoretical studies of the decomposition of Zn[(iPr) ₂ PSSe] ₂ single-source precursor in the gas phase for the chemical vapor deposition of binary and ternary zinc chalcogenides. Computational and Theoretical Chemistry, 2015, 1058, 1-11.	1.1	7
66	Quantum mechanical study of the kinetics, mechanisms and thermodynamics of the gas-phase decomposition of Pb[(iPr) ₂ PSSe] ₂ single-source precursor. Journal of Organometallic Chemistry, 2015, 787, 33-43.	0.8	3
67	Density functional theory (DFT) study of the gas-phase decomposition of the Cd[(iPr) ₂ PSSe] ₂ single-source precursor for the CVD of binary and ternary cadmium chalcogenides. Journal of Molecular Modeling, 2014, 20, 2484.	0.8	5
68	Antimicrobial and Phytochemical Properties of <i>Alstonia Boonei</i> Extracts. , 2014, 04, .		6
69	Metal Oxide Polymer Nanocomposites in Water Treatments. , 0, , .		12