# Wan Ki Bae

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/4230726/publications.pdf

Version: 2024-02-01

| | | | |
|---|---|---|---|
| 101 papers | 9,336 citations | 50276 46 h-index | 38395 95 g-index |
| 102 all docs | 102 docs citations | 102 times ranked | 7892 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Bright and Stable Quantum Dot Lightâ€Emitting Diodes. Advanced Materials, 2022, 34, e2106276. | 21.0 | 109 |
| 2 | Interface polarization in heterovalent coreâ€“shell nanocrystals. Nature Materials, 2022, 21, 246-252. | 27.5 | 52 |
| 3 | Quantum-dot and organic hybrid light-emitting diodes employing a blue common layer for simple fabrication of full-color displays. Nano Research, 2022, 15, 6477-6482. | 10.4 | 8 |
| 4 | Sample Concentration Affects Optical Gain Results in Colloidal Nanomaterials: Circumventing the Distortions by Below Band Gap Excitation. ACS Photonics, 2022, 9, 156-162. | 6.6 | 3 |
| 5 | Transient Dynamics of Charges and Excitons in Quantum Dot Lightâ€Emitting Diodes. Small, 2022, 18, . | 10.0 | 15 |
| 6 | Nondestructive Direct Photolithography for Patterning Quantum Dot Films by Atomic Layer Deposition of ZnO. Advanced Materials Interfaces, 2022, 9, . | 3.7 | 11 |
| 7 | Origin of enhanced efficiency and stability in diblock copolymer-grafted Cd-free quantum dot-based light-emitting diodes. Journal of Materials Chemistry C, 2021, 9, 10398-10405. | 5.5 | 9 |
| 8 | Electroluminescence Devices with Colloidal Quantum Dots. Series in Display Science and Technology, 2021, , 251-270. | 0.6 | 1 |
| 9 | Pushing the Band Gap Envelope of Quasi-Type II Heterostructured Nanocrystals to Blue: ZnSe/ZnSe <sub> 1- X </sub> Te  <sub>X</sub>  /ZnSe Spherical Quantum Wells. Energy Material Advances, 2021, 2021, . | 11.0 | 19 |
| 10 | Enhanced Performance of Pixelated Quantum Dot Lightâ€Emitting Diodes by Inkjet Printing of Quantum Dotâ€“Polymer Composites. Advanced Optical Materials, 2021, 9, 2002129. | 7.3 | 39 |
| 11 | Surface Polarity-Insensitive Organosilicasome-Based Clustering of Nanoparticles with Intragap Distance Tunability. Chemistry of Materials, 2021, 33, 5257-5267. | 6.7 | 7 |
| 12 | Highly Efficient, Surface Ligand Modified Quantum Dot Lightâ€Emitting Diodes Driven by Typeâ€Controllable MoTe<sub>2</sub> Thin Film Transistors via Electron Charge Enhancer. Advanced Electronic Materials, 2021, 7, 2100535. | 5.1 | 9 |
| 13 | Surface state-induced barrierless carrier injection in quantum dot electroluminescent devices. Nature Communications, 2021, 12, 5669. | 12.8 | 27 |
| 14 | A Bioinspired Stretchable Sensoryâ€Neuromorphic System. Advanced Materials, 2021, 33, e2104690. | 21.0 | 67 |
| 15 | Magnetron-sputtered amorphous V2O5 hole injection layer for high performance quantum dot light-emitting diode. Journal of Alloys and Compounds, 2021, 878, 160303. | 5.5 | 12 |
| 16 | Steering Interface Dipoles for Bright and Efficient All-Inorganic Quantum Dot Based Light-Emitting Diodes. ACS Nano, 2021, 15, 20332-20340. | 14.6 | 18 |
| 17 | IIIâ€“V colloidal nanocrystals: control of covalent surfaces. Chemical Science, 2020, 11, 913-922. | 7.4 | 77 |
| 18 | Efficient Optical Gain in Spherical Quantum Wells Enabled by Engineering Biexciton Interactions. ACS Photonics, 2020, 7, 2252-2264. | 6.6 | 20 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Tailoring the Electronic Landscape of Quantum Dot Light-Emitting Diodes for High Brightness and Stable Operation. ACS Nano, 2020, 14, 17496-17504. | 14.6 | 33 |
| 20 | Colorful opaque photovoltaic modules with down-converting InP/ZnSexS1-x quantum dot layers. Nano Energy, 2020, 77, 105169. | 16.0 | 20 |
| 21 | Lightâ€Emitting Electrochemical Cells with Polymerâ€Blended InP/ZnSeS Quantum Dot Active Layer. Advanced Optical Materials, 2020, 8, 2001535. | 7.3 | 2 |
| 22 | Direct Photolithographic Patterning of Colloidal Quantum Dots Enabled by UV-Crosslinkable and Hole-Transporting Polymer Ligands. ACS Applied Materials & Interfaces, 2020, 12, 42153-42160. | 8.0 | 38 |
| 23 | Simple Yet Effective Method to Determine Multiphoton Absorption Cross Section of Colloidal Semiconductor Nanocrystals. ACS Photonics, 2020, 7, 1806-1812. | 6.6 | 20 |
| 24 | High-resolution patterning of colloidal quantum dots via non-destructive, light-driven ligand crosslinking. Nature Communications, 2020, 11, 2874. | 12.8 | 114 |
| 25 | Surface Engineered Colloidal Quantum Dots for Complete Green Process. ACS Applied Materials & Interfaces, 2020, 12, 10563-10570. | 8.0 | 20 |
| 26 | Chemically resistant and thermally stable quantum dots prepared by shell encapsulation with cross-linkable block copolymer ligands. NPG Asia Materials, 2020, 12, . | 7.9 | 36 |
| 27 | Direct cation exchange of CdSe nanocrystals into ZnSe enabled by controlled binding between guest cations and organic ligands. Nanoscale, 2019, 11, 15072-15082. | 5.6 | 12 |
| 28 | â€œPositive Incentiveâ€•Approach To Enhance the Operational Stability of Quantum Dot-Based Light-Emitting Diodes. ACS Applied Materials & Interfaces, 2019, 11, 40252-40259. | 8.0 | 20 |
| 29 | Highly Efficient and Bright Inverted Topâ€Emitting InP Quantum Dot Lightâ€Emitting Diodes Introducing a Holeâ€Suppressing Interlayer. Small, 2019, 15, e1905162. | 10.0 | 54 |
| 30 | Nanostructured colloidal quantum dots for efficient electroluminescence devices. Korean Journal of Chemical Engineering, 2019, 36, 173-185. | 2.7 | 23 |
| 31 | Dual-Emitting Dot-in-Bulk CdSe/CdS Nanocrystals with Highly Emissive Core- and Shell-Based Trions Sharing the Same Resident Electron. Nano Letters, 2019, 19, 8846-8854. | 9.1 | 6 |
| 32 | Synthesis of InP nanocrystals using triphenyl phosphite as phosphorus source. Korean Journal of Chemical Engineering, 2019, 36, 1518-1526. | 2.7 | 9 |
| 33 | Simultaneous Existence of Confined and Delocalized Vibrational Modes in Colloidal Quantum Dots. Journal of Physical Chemistry Letters, 2019, 10, 6144-6150. | 4.6 | 19 |
| 34 | Depletion-Mediated Interfacial Assembly of Semiconductor Nanorods. Nano Letters, 2019, 19, 963-970. | 9.1 | 28 |
| 35 | Environmentally benign nanocrystals: challenges and future directions. Journal of Information Display, 2019, 20, 61-72. | 4.0 | 15 |
| 36 | Pushing the Efficiency Envelope for Semiconductor Nanocrystal-Based Electroluminescence Devices Using Anisotropic Nanocrystals. Chemistry of Materials, 2019, 31, 3066-3082. | 6.7 | 51 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Stacking of Colloidal CdSe Nanoplatelets into Twisted Ribbon Superstructures: Origin of Twisting and Its Implication in Optical Properties. Journal of Physical Chemistry C, 2019, 123, 9445-9453. | 3.1 | 25 |
| 38 | Design Principle for Bright, Robust, and Color-Pure InP/ZnSe<sub>x</sub>S<sub>1â€“x</sub>/ZnS Heterostructures. Chemistry of Materials, 2019, 31, 3476-3484. | 6.7 | 112 |
| 39 | Controlling Ion-Exchange Balance and Morphology in Cation Exchange from Cu<sub>3â€“x</sub>P Nanoplatelets into InP Crystals. Chemistry of Materials, 2019, 31, 1990-2001. | 6.7 | 35 |
| 40 | Performance Limits of Luminescent Solar Concentrators Tested with Seed/Quantum-Well Quantum Dots in a Selective-Reflector-Based Optical Cavity. Nano Letters, 2018, 18, 395-404. | 9.1 | 46 |
| 41 | Unraveling the Origin of Operational Instability of Quantum Dot Based Light-Emitting Diodes. ACS Nano, 2018, 12, 10231-10239. | 14.6 | 123 |
| 42 | Enhanced Lifetime and Efficiency of Red Quantum Dot Lightâ€Emitting Diodes with Yâ€Doped ZnO Solâ€“Gel Electronâ€Transport Layers by Reducing Excess Electron Injection. Advanced Quantum Technologies, 2018, 1, 1700006. | 3.9 | 38 |
| 43 | Ligand-Asymmetric Janus Quantum Dots for Efficient Blue-Quantum Dot Light-Emitting Diodes. ACS Applied Materials & Interfaces, 2018, 10, 22453-22459. | 8.0 | 30 |
| 44 | Twoâ€Color Emitting Colloidal Nanocrystals as Singleâ€Particle Ratiometric Probes of Intracellular pH. Advanced Functional Materials, 2017, 27, 1605533. | 14.9 | 30 |
| 45 | Highly luminescent silica-coated CdS/CdSe/CdS nanoparticles with strong chemical robustness and excellent thermal stability. Nanotechnology, 2017, 28, 185603. | 2.6 | 33 |
| 46 | Interfacial engineering of core/shell heterostructured nanocrystal quantum dots for light-emitting applications. Journal of Information Display, 2017, 18, 57-65. | 4.0 | 30 |
| 47 | Assemblies of Colloidal CdSe Tetrapod Nanocrystals with Lengthy Arms for Flexible Thin-Film Transistors. Nano Letters, 2017, 17, 2433-2439. | 9.1 | 20 |
| 48 | Single-Particle Ratiometric Pressure Sensing Based on â€œDouble-Sensorâ€•Colloidal Nanocrystals. Nano Letters, 2017, 17, 1071-1081. | 9.1 | 26 |
| 49 | Multifunctional Dendrimer Ligands for High-Efficiency, Solution-Processed Quantum Dot Light-Emitting Diodes. ACS Nano, 2017, 11, 684-692. | 14.6 | 70 |
| 50 | Origin of Shape-Dependent Fluorescence Polarization from CdSe Nanoplatelets. Journal of Physical Chemistry C, 2017, 121, 24837-24844. | 3.1 | 33 |
| 51 | Colloidal Dual-Diameter and Core-Position-Controlled Core/Shell Cadmium Chalcogenide Nanorods. ACS Nano, 2017, 11, 12461-12472. | 14.6 | 36 |
| 52 | Zincâ€“Phosphorus Complex Working as an Atomic Valve for Colloidal Growth of Monodisperse Indium Phosphide Quantum Dots. Chemistry of Materials, 2017, 29, 6346-6355. | 6.7 | 53 |
| 53 | Low-coordinated surface atoms of CuPt alloy cocatalysts on TiO<sub>2</sub>for enhanced photocatalytic conversion of CO<sub>2</sub>. Nanoscale, 2016, 8, 10043-10048. | 5.6 | 80 |
| 54 | Multidentate Polysarcosine-Based Ligands for Water-Soluble Quantum Dots. Macromolecules, 2016, 49, 3663-3671. | 4.8 | 43 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Toward highâ€resolution, inkjetâ€printed, quantum dot lightâ€emitting diodes for nextâ€generation displays. Journal of the Society for Information Display, 2016, 24, 545-551. | 2.1 | 55 |
| 56 | Spectroscopic and Device Aspects of Nanocrystal Quantum Dots. Chemical Reviews, 2016, 116, 10513-10622. | 47.7 | 744 |
| 57 | Colloidal Spherical Quantum Wells with Near-Unity Photoluminescence Quantum Yield and Suppressed Blinking. ACS Nano, 2016, 10, 9297-9305. | 14.6 | 119 |
| 58 | Influence of External Pressure on the Performance of Quantum Dot Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 23947-23952. | 8.0 | 3 |
| 59 | The Role of Emission Layer Morphology on the Enhanced Performance of Lightâ€Emitting Diodes Based on Quantum Dotâ€Semiconducting Polymer Hybrids. Advanced Materials Interfaces, 2016, 3, 1600279. | 3.7 | 33 |
| 60 | Effect of Core/Shell Interface on Carrier Dynamics and Optical Gain Properties of Dual-Color Emitting CdSe/CdS Nanocrystals. ACS Nano, 2016, 10, 6877-6887. | 14.6 | 57 |
| 61 | Role of Surface States in Photocatalysis: Study of Chlorine-Passivated CdSe Nanocrystals for Photocatalytic Hydrogen Generation. Chemistry of Materials, 2016, 28, 962-968. | 6.7 | 71 |
| 62 | Side-chain conjugated polymers for use in the active layers of hybrid semiconducting polymer/quantum dot light emitting diodes. Polymer Chemistry, 2016, 7, 101-112. | 3.9 | 24 |
| 63 | Direct Cd-to-Pb Exchange of CdSe Nanorods into PbSe/CdSe Axial Heterojunction Nanorods. Chemistry of Materials, 2015, 27, 5295-5304. | 6.7 | 45 |
| 64 | Controlled Vortex Formation and Facilitated Energy Transfer within Aggregates of Colloidal CdS Nanorods. Chemistry of Materials, 2015, 27, 2797-2802. | 6.7 | 14 |
| 65 | Soft Contact Transplanted Nanocrystal Quantum Dots for Light-Emitting Diodes: Effect of Surface Energy on Device Performance. ACS Applied Materials & Interfaces, 2015, 7, 10828-10833. | 8.0 | 31 |
| 66 | Effect of Auger Recombination on Lasing in Heterostructured Quantum Dots with Engineered Core/Shell Interfaces. Nano Letters, 2015, 15, 7319-7328. | 9.1 | 163 |
| 67 | Influence of Shell Thickness on the Performance of Lightâ€Emitting Devices Based on CdSe/Zn<sub>1â€X</sub>Cd<sub>X</sub>S Core/Shell Heterostructured Quantum Dots. Advanced Materials, 2014, 26, 8034-8040. | 21.0 | 250 |
| 68 | Dual-Color Electroluminescence from Dot-in-Bulk Nanocrystals. Nano Letters, 2014, 14, 486-494. | 9.1 | 66 |
| 69 | Effect of the Core/Shell Interface on Auger Recombination Evaluated by Single-Quantum-Dot Spectroscopy. Nano Letters, 2014, 14, 396-402. | 9.1 | 188 |
| 70 | Reduced efficiency roll-off in light-emitting diodes enabled by quantum dotâ€“conducting polymer nanohybrids. Journal of Materials Chemistry C, 2014, 2, 4974-4979. | 5.5 | 36 |
| 71 | R/G/B/Natural White Light Thin Colloidal Quantum Dotâ€Based Lightâ€Emitting Devices. Advanced Materials, 2014, 26, 6387-6393. | 21.0 | 193 |
| 72 | Auger Recombination of Biexcitons and Negative and Positive Trions in Individual Quantum Dots. ACS Nano, 2014, 8, 7288-7296. | 14.6 | 234 |

| # | Article | IF | Citations |
|---|---|---|---|
| 73 | Electrochemical Control of Two-Color Emission from Colloidal Dot-in-Bulk Nanocrystals. Nano Letters, 2014, 14, 3855-3863. | 9.1 | 30 |
| 74 | The effect of band gap alignment on the hole transport from semiconducting block copolymers to quantum dots. Journal of Materials Chemistry C, 2013, 1, 1722. | 5.5 | 32 |
| 75 | Controlling the influence of Auger recombination on the performance of quantum-dot light-emitting diodes. Nature Communications, 2013, 4, 2661. | 12.8 | 605 |
| 76 | Highly Efficient Cadmium-Free Quantum Dot Light-Emitting Diodes Enabled by the Direct Formation of Excitons within InP@ZnSeS Quantum Dots. ACS Nano, 2013, 7, 9019-9026. | 14.6 | 326 |
| 77 | Dynamic Hole Blockade Yields Two-Color Quantum and Classical Light from Dot-in-Bulk Nanocrystals. Nano Letters, 2013, 13, 321-328. | 9.1 | 60 |
| 78 | Aspect Ratio Dependence of Auger Recombination and Carrier Multiplication in PbSe Nanorods. Nano Letters, 2013, 13, 1092-1099. | 9.1 | 123 |
| 79 | Carrier Multiplication in Semiconductor Nanocrystals: Influence of Size, Shape, and Composition. Accounts of Chemical Research, 2013, 46, 1261-1269. | 15.6 | 161 |
| 80 | Robust, processable, and bright quantum dot/organosilicate hybrid films with uniform QD distribution based on thiol-containing organosilicate ligands. Journal of Materials Chemistry C, 2013, 1, 1983. | 5.5 | 20 |
| 81 | Carrier Multiplication in Quantum Dots within the Framework of Two Competing Energy Relaxation Mechanisms. Journal of Physical Chemistry Letters, 2013, 4, 2061-2068. | 4.6 | 59 |
| 82 | Controlled Alloying of the Coreâ€“Shell Interface in CdSe/CdS Quantum Dots for Suppression of Auger Recombination. ACS Nano, 2013, 7, 3411-3419. | 14.6 | 417 |
| 83 | Controlled Synthesis of CdSe Tetrapods with High Morphological Uniformity by the Persistent Kinetic Growth and the Halide-Mediated Phase Transformation. Chemistry of Materials, 2013, 25, 1443-1449. | 6.7 | 75 |
| 84 | Spectroscopic insights into the performance of quantum dot light-emitting diodes. MRS Bulletin, 2013, 38, 721-730. | 3.5 | 91 |
| 85 | Perspective on synthesis, device structures, and printing processes for quantum dot displays. Optical Materials Express, 2012, 2, 594. | 3.0 | 120 |
| 86 | Multiexciton Dynamics in Infrared-Emitting Colloidal Nanostructures Probed by a Superconducting Nanowire Single-Photon Detector. ACS Nano, 2012, 6, 9532-9540. | 14.6 | 43 |
| 87 | Highly Effective Surface Passivation of PbSe Quantum Dots through Reaction with Molecular Chlorine. Journal of the American Chemical Society, 2012, 134, 20160-20168. | 13.7 | 221 |
| 88 | Generalized Synthesis of Hybrid Metalâ€“Semiconductor Nanostructures Tunable from the Visible to the Infrared. ACS Nano, 2012, 6, 3832-3840. | 14.6 | 99 |
| 89 | Bright and Efficient Full-Color Colloidal Quantum Dot Light-Emitting Diodes Using an Inverted Device Structure. Nano Letters, 2012, 12, 2362-2366. | 9.1 | 817 |
| 90 | InP@ZnSeS, Core@Composition Gradient Shell Quantum Dots with Enhanced Stability. Chemistry of Materials, 2011, 23, 4459-4463. | 6.7 | 239 |

| # | Article | IF | Citations |
|---|---|---|---|
| 91 | 38.4: Fullâ€Color Patterning of Quantum Dot (QD) Lightâ€Emitting Diodes using QD Transplanting Techniques. Digest of Technical Papers SID International Symposium, 2011, 42, 526-528. | 0.3 | 3 |
| 92 | Multicolored Light-Emitting Diodes Based on All-Quantum-Dot Multilayer Films Using Layer-by-Layer Assembly Method. Nano Letters, 2010, 10, 2368-2373. | 9.1 | 216 |
| 93 | Highly Efficient Greenâ€Lightâ€Emitting Diodes Based on CdSe@ZnS Quantum Dots with a Chemicalâ€Composition Gradient. Advanced Materials, 2009, 21, 1690-1694. | 21.0 | 265 |
| 94 | Characterization of Quantum Dot/Conducting Polymer Hybrid Films and Their Application to Lightâ€Emitting Diodes. Advanced Materials, 2009, 21, 5022-5026. | 21.0 | 90 |
| 95 | Free-Standing Nanocomposite Multilayers with Various Length Scales, Adjustable Internal Structures, and Functionalities. Journal of the American Chemical Society, 2009, 131, 2579-2587. | 13.7 | 77 |
| 96 | Placement Control of Nanomaterial Arrays on the Surface-Reconstructed Block Copolymer Thin Films. ACS Nano, 2009, 3, 3927-3934. | 14.6 | 91 |
| 97 | Quantum Dotâ^'Block Copolymer Hybrids with Improved Properties and Their Application to Quantum Dot Light-Emitting Devices. ACS Nano, 2009, 3, 1063-1068. | 14.6 | 132 |
| 98 | Deep blue light-emitting diodes based on Cd1â^'xZnxS@ZnS quantum dots. Nanotechnology, 2009, 20, 075202. | 2.6 | 58 |
| 99 | Single-Step Synthesis of Quantum Dots with Chemical Composition Gradients. Chemistry of Materials, 2008, 20, 531-539. | 6.7 | 462 |
| 100 | Single-Layered Films of Diblock Copolymer Micelles Containing Quantum Dots and Fluorescent Dyes and Their Fluorescence Resonance Energy Transfer. Chemistry of Materials, 2008, 20, 4185-4187. | 6.7 | 23 |
| 101 | Gram-Scale One-Pot Synthesis of Highly Luminescent Blue Emitting Cd<sub>1â^'x</sub>Zn<sub>x</sub>S/ZnS Nanocrystals. Chemistry of Materials, 2008, 20, 5307-5313. | 6.7 | 169 |