

Prof. EVREN MUTLUGÜN

Personal Information

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International Researcher IDs

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Biography

Assoc. Prof. Evren Mutlugün received the B.Sc degree in Physics from Middle East Technical University in 2005. He got his M.Sc. and Ph.D. degrees, both from Bilkent University Physics Department in 2007 and 2012 respectively. Prior to joining Abdullah Gül University as a faculty of Electrical-Electronics Engineering in 2014, he worked as a National Research Foundation Competitive Research Programme (NRF-CRP) research fellow at Nanyang Technological University, between 2012 and 2014. Since 2015, he is acting as the vice dean of School of Engineering at Abdullah Gul University. His research focuses on the colloidal quantum dot-based exciton harvesting systems for novel optoelectronic applications. He is the recipient of the 2014 BAGEP Science Academy Young Scientist Award, 2017 Turkish Academy of Sciences Outstanding Young Scientist Award, 2019 Young Scientist Award of the Science Heroes Association, and has co-authored numerous conference papers and more than 60 SCI journals in high rank journals in the field.

Education Information

Doctorate, İhsan Doğramacı Bilkent University, Faculty Of Science, Fizik, Turkey 2007 - 2011

Postgraduate, İhsan Doğramacı Bilkent University, Faculty Of Science, Fizik, Turkey 2005 - 2007

Undergraduate, Middle East Technical University, Fen Edebiyat Fakültesi, Fizik, Turkey 2002 - 2005

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Exciton Harvesting Systems of Nanocrystals, İhsan Doğramacı Bilkent Üniversitesi, Fizik, Fizik, 2012

Postgraduate, Novel Ultraviolet Scintillators based on Semiconductor Quantum Dot Emitters for Significantly Enhanced Photodetection and Photovoltaics, İhsan Doğramacı Bilkent Üniversitesi, Fizik, Fen Fakültesi/Fizik, 2007

Research Areas

Electrical and Electronics Engineering, Electronic, Nanotechnology, Optics and Photonics, Metallurgical and Materials Engineering, Material science and engineering, Optical Properties, Nanomaterials, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Abdullah Gul University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2017 - Continues

Assistant Professor, Abdullah Gul University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2013 - Continues

Academic and Administrative Experience

Vice Dean, Abdullah Gul University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2015 - Continues

BAP Scientific Commissioner, Abdullah Gul University, 2014 - 2020

Assistant Director of the Institute, Abdullah Gul University, 2014 - 2015

Courses

Postgraduate

SPECIAL TOPICS IN EEE, Postgraduate, 2020 - 2021

Undergraduate

PHYSICS II FOR ELECTRICAL ELECTRONICS ENGINEERING, Undergraduate, 2020 - 2021

PHYSICS II, Undergraduate, 2020 - 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Electrochemical and Optical Multi-Detection of Escherichia coli Through Magneto-Optic Nanoparticles: A Pencil-on-Paper Biosensor**
Soysaldı F., Dincyurek Ekici D., SOYLU M. Ç., Mutlugun E.
Biosensors, vol.14, no.12, 2024 (SCI-Expanded)
- II. **Tailoring Quantum Dot Shell Thickness and Polyethylenimine Interlayers for Optimization of Inverted Quantum Dot Light-Emitting Diodes**
Yazici A. F., Ocal S. K., Bicer A., Serin R. B., Kacar R., Ucar E., Ulku A., Erdem T., Mutlugun E.
Photonics, vol.11, no.7, 2024 (SCI-Expanded)
- III. **Tattoo-Like Multi-Color Physically Unclonable Functions**
KİREMİTLER N. B., Esidir A., Drake G. A., Yazici A. F., Sahin F., TÖRÜN İ., KALAY M., KELEŞTEMUR Y., Demir H. V., Shim M., et al.
Advanced Optical Materials, vol.12, no.12, 2024 (SCI-Expanded)
- IV. **Photoluminescent and superhydrophobic nanocomposites of perovskite nanocrystals**
Karabel Ocal S., ÇELİK N., ÖNSES M. S., Mutlugun E.
Surfaces and Interfaces, vol.46, 2024 (SCI-Expanded)
- V. **Spectrally Tunable White Light-Emitting Diodes Based on Carbon Quantum Dot-Doped Poly(N-vinylcarbazole) Composites**
ŞAHİN TIRAŞ K., Biçer A., Soheyli E., Mutlugun E.
ACS Applied Nano Materials, vol.7, no.3, pp.2744-2752, 2024 (SCI-Expanded)
- VI. **Toward sustainable optoelectronics: solution-processed quantum dot photodetector fabrication using a surgical blade**
SAVAŞ M., Yazıcı A. F., BİÇER A., MUTLUGÜN E., ERDEM T.
Optical Engineering, vol.62, no.2, 2023 (SCI-Expanded)
- VII. **Magnetically controlled anisotropic light emission of DNA-functionalized supraparticles**
ERDEM T., Zupkauskas M., O'Neill T., Cassiagli A., Xu P., ALTINTAS Y., MUTLUGÜN E., Eiser E.
MRS BULLETIN, vol.47, no.11, pp.1084-1091, 2022 (SCI-Expanded)
- VIII. **Nanowire-Shaped MoS₂@MoO₃ Nanocomposites as a Hole Injection Layer for Quantum Dot Light-**

Emitting Diodes

Bastami N., Soheyli E., Arslan A., Sahraei R., YAZICI A. F., MUTLUGÜN E.

ACS APPLIED ELECTRONIC MATERIALS, vol.4, no.8, pp.3849-3859, 2022 (SCI-Expanded)

- IX. **Color Enrichment Solids of Spectrally Pure Colloidal Quantum Wells for Wide Color Span in Displays**
ERDEM T., SORAN ERDEM Z., Isik F., Shabani F., YAZICI A. F., MUTLUGÜN E., Gaponik N., DEMİR H. V.
ADVANCED OPTICAL MATERIALS, vol.10, no.14, 2022 (SCI-Expanded)
- X. **Superior CdSe/ZnS@Fe₂O₃ Yolk-Shell Nanoparticles as Optically Active MRI Contrast Agents**
DİNÇYÜREK EKİCİ D., MUTLUGÜN E.
CHEMISTRYSELECT, vol.7, no.25, 2022 (SCI-Expanded)
- XI. **Natural Wax-Stabilized Perovskite Nanocrystals as Pen-on-Paper Inks and Doughs**
Ocal S. K., KİREMİTLER N. B., YAZICI A. F., ÇELİK N., MUTLUGÜN E., ÖNSES M. S.
ACS APPLIED NANO MATERIALS, vol.5, no.5, pp.6201-6212, 2022 (SCI-Expanded)
- XII. **Meso- π -Extended/Deficient BODIPYs and Low-Band-Gap Donor-Acceptor Copolymers for Organic Optoelectronics**
CAN A., Choi G., ÖZDEMİR R., Park S., Park J. S., Lee Y., DENEME İ., MUTLUGÜN E., Kim C., Kim B. J., et al.
ACS APPLIED POLYMER MATERIALS, vol.4, no.3, pp.1991-2005, 2022 (SCI-Expanded)
- XIII. **Highly luminescent ZnCdTeS nanocrystals with wide spectral tunability for efficient color-conversion white-light-emitting-diodes**
Soheyli E., Zargoush S., YAZICI A. F., Sahraei R., MUTLUGÜN E.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.54, no.50, 2021 (SCI-Expanded)
- XIV. **Rational design of chemical bath deposition technique for successful preparation of Mn-doped CdS nanostructured thin films with controlled optical properties**
Kharabaneh F. K., Ghavidel E., Soheyli E., Yazıcı A. F., Jawhar N. N., Mutlugün E., Sahraei R.
CERAMICS INTERNATIONAL, vol.47, no.4, pp.5523-5533, 2021 (SCI-Expanded)
- XV. **Long-time stable colloidal Zn-Ag-In-S quantum dots with tunable midgap-involved emission**
Sabzevari Z., Sahraei R., Jawhar N. N., YAZICI A. F., MUTLUGÜN E., Soheyli E.
JOURNAL OF APPLIED PHYSICS, vol.129, no.6, 2021 (SCI-Expanded)
- XVI. **Osmotic-Pressure-Induced Nematic Ordering in Suspensions of Laponite and Carboxy Methyl Cellulose**
Xu P., YAZICI A. F., ERDEM T., Lekkerkerker H. N. W., MUTLUGÜN E., Eiser E.
JOURNAL OF PHYSICAL CHEMISTRY B, vol.124, no.42, pp.9475-9481, 2020 (SCI-Expanded)
- XVII. **A hybridized local and charge transfer excited state for solution-processed non-doped green electroluminescence based on oligo(p-phenyleneethynylene)**
USTA H., Alimli D., ÖZDEMİR R., Tekin E., ALKAN F., Kacar R., Altas A. G., Dabak S., Gurek A. G., MUTLUGÜN E., et al.
JOURNAL OF MATERIALS CHEMISTRY C, vol.8, no.24, pp.8047-8060, 2020 (SCI-Expanded)
- XVIII. **Preparation of highly emissive and reproducible Cu-In-S/ZnS core/shell quantum dots with a mid-gap emission character**
Jawhar N. N., Soheyli E., YAZICI A. F., MUTLUGÜN E., Sahraei R.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.824, 2020 (SCI-Expanded)
- XIX. **Transparent Films Made of Highly Scattering Particles**
Erdem T., Yang L., Xu P., ALTINTAS Y., O'Neil T., Caciagli A., Ducati C., MUTLUGÜN E., Scherman O. A., Eiser E.
LANGMUIR, vol.36, no.4, pp.911-918, 2020 (SCI-Expanded)
- XX. **Record High External Quantum Efficiency of 19.2% Achieved in Light-Emitting Diodes of Colloidal Quantum Wells Enabled by Hot-Injection Shell Growth**
Liu B., Altintas Y., Wang L., Shendre S., Sharma M., Sun H., Mutlugun E., Demir H. V.
ADVANCED MATERIALS, vol.32, no.8, 2020 (SCI-Expanded)
- XXI. **Multiplexed patterning of cesium lead halide perovskite nanocrystals by additive jet printing for efficient white light generation**
ALTINTAS Y., TÖRÜN İ., YAZICI A. F., Beskacak E., ERDEM T., ÖNSES M. S., MUTLUGÜN E.
CHEMICAL ENGINEERING JOURNAL, vol.380, 2020 (SCI-Expanded)
- XXII. **Improving performance and stability in quantum dot-sensitized solar cell through single layer**

graphene/Cu₂S nanocomposite counter electrode

Akman E., ALTINTAS Y., Gulen M., Yilmaz M., MUTLUGÜN E., Sonmezoglu S.
RENEWABLE ENERGY, vol.145, pp.2192-2200, 2020 (SCI-Expanded)

- XXIII. **Writing chemical patterns using electrospun fibers as nanoscale inkpots for directed assembly of colloidal nanocrystals**
KİREMİTLER N. B., TÖRÜN İ., ALTINTAS Y., Patarroyo J., Demir H. V., Puentes V. F., Mutlugun E., ÖNSES M. S.
NANOSCALE, vol.12, no.2, pp.895-903, 2020 (SCI-Expanded)
- XXIV. **Giant Alloyed Hot Injection Shells Enable Ultralow Optical Gain Threshold in Colloidal Quantum Wells**
Altintas Y., Gungor K., Gao Y., Sak M., Quliyeva U., Bappi G., Mutlugun E., Sargent E. H., Demir H. V.
ACS NANO, vol.13, no.9, pp.10662-10670, 2019 (SCI-Expanded)
- XXV. **Cesium-lead based inorganic perovskite quantum-dots as interfacial layer for highly stable perovskite solar cells with exceeding 21% efficiency**
Akin S., ALTINTAS Y., MUTLUGÜN E., Sonmezoglu S.
NANO ENERGY, vol.60, pp.557-566, 2019 (SCI-Expanded)
- XXVI. **Highly Stable, Near-Unity Efficiency Atomically Flat Semiconductor Nanocrystals of CdSe/ZnS Hetero-Nanoplatelets Enabled by ZnS-Shell Hot-Injection Growth**
Altintas Y., Quliyeva U., Gungor K., Erdem O., Kelestemur Y., Mutlugun E., KOVALENKO M. V., Demir H. V.
SMALL, vol.15, no.8, 2019 (SCI-Expanded)
- XXVII. **FRET enabled light harvesting within quantum dot loaded nanofibers**
ALTINTAS Y., KİREMİTLER N. B., GENÇ S., ÖNSES M. S., MUTLUGÜN E.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.51, no.6, 2018 (SCI-Expanded)
- XXVIII. **Cd-free quantum dot pellets for efficient white light generation**
ALTINTAS Y., TALPUR M. Y., MUTLUGÜN E.
OPTICS EXPRESS, vol.25, no.23, pp.28371-28384, 2017 (SCI-Expanded)
- XXIX. **Rec. 2100 color gamut revelation using spectrally ultranarrow emitters**
Genc S., UĞUZ M., YILMAZ O., Mutlugun E.
OPTICAL ENGINEERING, vol.56, no.11, 2017 (SCI-Expanded)
- XXX. **Excitonic interaction amongst InP/ZnS salt pellets**
ALTINTAS Y., YAZICI A. F., ÜNLÜ M., DADI Ş., GENÇ S., MUTLUGÜN E.
JOURNAL OF MATERIALS CHEMISTRY C, vol.5, no.29, pp.7328-7336, 2017 (SCI-Expanded)
- XXXI. **Efficient Forster Resonance Energy Transfer Donors of In(Zn)P/ZnS Quantum Dots**
ALTINTAS Y., TALPUR M. Y., MUTLUGÜN E.
JOURNAL OF PHYSICAL CHEMISTRY C, vol.121, no.5, pp.3034-3043, 2017 (SCI-Expanded)
- XXXII. **The effect of ligand chain length on the optical properties of alloyed core-shell InPZnS/ZnS quantum dots**
ALTINTAS Y., TALPUR M. Y., MUTLUGÜN E.
Journal of Alloys and Compounds, vol.711, pp.335-341, 2017 (SCI-Expanded)
- XXXIII. **CdSe/ZnS quantum dot films for high performance flexible lighting and display applications**
ALTINTAS Y., GENÇ S., Talpur M. Y., MUTLUGÜN E.
NANOTECHNOLOGY, vol.27, no.29, 2016 (SCI-Expanded)
- XXXIV. **CdSe/ZnS quantum dot films for high performance flexible lighting and display applications.**
ALTINTAS Y., GENÇ S., TALPUR M. Y., MUTLUGÜN E.
NANOTECHNOLOGY, pp.295604-295612, 2016 (SCI-Expanded)
- XXXV. **Highly Efficient Cd-Free Alloyed Core/Shell Quantum Dots with Optimized Precursor Concentrations**
ALTINTAS Y., TALPUR M. Y., ÜNLÜ M., MUTLUGÜN E.
JOURNAL OF PHYSICAL CHEMISTRY C, vol.120, no.14, pp.7885-7892, 2016 (SCI-Expanded)
- XXXVI. **Exciton dynamics in luminescent carbon nanodots: Electron-hole exchange interaction**
Peng B., Lu X., Chen S., Huan C. H. A., Xiong Q., Mutlugun E., Demir H. V., Yu S. F.
NANO RESEARCH, vol.9, no.2, pp.549-559, 2016 (SCI-Expanded)
- XXXVII. **Trans-cis isomerization assisted synthesis of solution-processable yellow fluorescent maleic anhydrides for white-light generation**

Özdemir M., GENÇ S., ÖZDEMİR R., ALTINTAS Y., Citir M., Sen U., MUTLUGÜN E., USTA H.
SYNTHETIC METALS, vol.210, pp.192-200, 2015 (SCI-Expanded)

- XXXVIII. **Electroluminescence Efficiency Enhancement in Quantum Dot Light-Emitting Diodes by Embedding a Silver Nanoisland Layer**
Yang X., Hernandez-Martinez P. L., Dang C., Mutlugun E., Zhang K., Demir H. V., Sun X. W.
ADVANCED OPTICAL MATERIALS, vol.3, no.10, pp.1439-1445, 2015 (SCI-Expanded)
- XXXIX. **Observation of polarized gain from aligned colloidal nanorods**
Gao Y., Van Duong Ta V. D. T., Zhao X., Wang Y., Chen R., Mutlugun E., Fong K. E., Tan S. T., Dang C., Sun X. W., et al.
NANOSCALE, vol.7, no.15, pp.6481-6486, 2015 (SCI-Expanded)
- XL. **Light Extraction Efficiency Enhancement of Colloidal Quantum Dot Light-Emitting Diodes Using Large-Scale Nanopillar Arrays**
Yang X., Dev K., Wang J., Mutlugun E., Dang C., Zhao Y., Liu S., Tang Y., Tan S. T., Sun X. W., et al.
ADVANCED FUNCTIONAL MATERIALS, vol.24, no.38, pp.5977-5984, 2014 (SCI-Expanded)
- XLI. **Colloidal Quantum Dot Light-Emitting Diodes Employing Phosphorescent Small Organic Molecules as Efficient Exciton Harvesters**
Mutlugun E., Guzelturk B., Abiyasa A. P., Gao Y., Sun X. W., Demir H. V.
JOURNAL OF PHYSICAL CHEMISTRY LETTERS, vol.5, no.16, pp.2802-2807, 2014 (SCI-Expanded)
- XLII. **Highly Flexible, Electrically Driven, Top-Emitting, Quantum Dot Light-Emitting Stickers**
Yang X., Mutlugun E., Dang C., Dev K., Gao Y., Tan S. T., Sun X. W., Demir H. V.
ACS NANO, vol.8, no.8, pp.8224-8231, 2014 (SCI-Expanded)
- XLIII. **Hyperbolic metamaterials based on quantum-dot plasmon-resonator nanocomposites**
Zhukovsky S. V., Ozel T., Mutlugun E., Gaponik N., Eychmuller A., Lavrinenko A. V., Demir H. V., Gaponenko S. V.
OPTICS EXPRESS, vol.22, no.15, pp.18290-18298, 2014 (SCI-Expanded)
- XLIV. **Quantum dots on vertically aligned gold nanorod monolayer: plasmon enhanced fluorescence**
Peng B., Li Z., Mutlugun E., Hernandez Martinez P. L., Li D., Zhang Q., Gao Y., Demir H. V., Xiong Q.
NANOSCALE, vol.6, no.11, pp.5592-5598, 2014 (SCI-Expanded)
- XLV. **Stimulated Emission and Lasing from CdSe/CdS/ZnS Core-Multi-Shell Quantum Dots by Simultaneous Three-Photon Absorption**
Wang Y., Van Duong Ta V. D. T., Gao Y., He T. C., Chen R., Mutlugun E., Demir H. V., Sun H. D.
ADVANCED MATERIALS, vol.26, no.18, pp.2954-2961, 2014 (SCI-Expanded)
- XLVI. **Transition metal oxides on organic semiconductors**
Zhao Y., Zhang J., Liu S., Gao Y., Yang X., Leck K. S., Abiyasa A. P., Divayana Y., Mutlugun E., Tan S. T., et al.
ORGANIC ELECTRONICS, vol.15, no.4, pp.871-877, 2014 (SCI-Expanded)
- XLVII. **Nanosecond colloidal quantum dot lasers for sensing**
Guilhabert B., Foucher C., Haughey A., Mutlugun E., Gao Y., Herrnsdorf J., Sun H. D., Demir H. V., Dawson M. D., Laurand N.
OPTICS EXPRESS, vol.22, no.6, pp.7308-7319, 2014 (SCI-Expanded)
- XLVIII. **Solution Processed Tungsten Oxide Interfacial Layer for Efficient Hole-Injection in Quantum Dot Light-Emitting Diodes**
Yang X., Mutlugun E., Zhao Y., Gao Y., Leck K. S., Ma Y., Ke L., Tan S. T., Demir H. V., Sun X. W.
SMALL, vol.10, no.2, pp.247-252, 2014 (SCI-Expanded)
- XLIX. **Stable, Efficient, and All-Solution-Processed Quantum Dot Light-Emitting Diodes with Double-Sided Metal Oxide Nanoparticle Charge Transport Layers**
Yang X., Ma Y., Mutlugun E., Zhao Y., Leck K. S., Tan S. T., Demir H. V., Zhang Q., Du H., Sun X. W.
ACS APPLIED MATERIALS & INTERFACES, vol.6, no.1, pp.495-499, 2014 (SCI-Expanded)
- L. **AC-driven, color-and brightness-tunable organic light-emitting diodes constructed from an electron only device**
Zhao Y., Chen R., Gao Y., Leck K. S., Yang X., Liu S., Abiyasa A. P., Divayana Y., Mutlugun E., Tan S. T., et al.
ORGANIC ELECTRONICS, vol.14, no.12, pp.3195-3200, 2013 (SCI-Expanded)
- LI. **Quantum Dot Light-Emitting Diode with Quantum Dots Inside the Hole Transporting Layers**
Leck K. S., Divayana Y., Zhao D., Yang X., Abiyasa A. P., Mutlugun E., Gao Y., Liu S., Tan S. T., Sun X. W., et al.

ACS APPLIED MATERIALS & INTERFACES, vol.5, no.14, pp.6535-6540, 2013 (SCI-Expanded)

- LII. **Observation of Selective Plasmon-Exciton Coupling in Nonradiative Energy Transfer: Donor-Selective versus Acceptor-Selective Plexcitons**
Ozel T., Hernandez-Martinez P. L., Mutlugun E., Akin O., Nizamoglu S., Ozel I. O., Zhang Q., Xiong Q., Demir H. V.
NANO LETTERS, vol.13, no.7, pp.3065-3072, 2013 (SCI-Expanded)
- LIII. **Observation of Biexcitons in Nanocrystal Solids in the Presence of Photocharging**
Cihan A. F., Martinez P. L. H., Kelestemur Y., Mutlugun E., Demir H. V.
ACS NANO, vol.7, no.6, pp.4799-4809, 2013 (SCI-Expanded)
- LIV. **Plasmonic light-sensitive skins of nanocrystal monolayers**
Akhavan S., Gungor K., Mutlugun E., Demir H. V.
NANOTECHNOLOGY, vol.24, no.15, 2013 (SCI-Expanded)
- LV. **Bio-nanohybrids of quantum dots and photoproteins facilitating strong nonradiative energy transfer**
Seker U. O. S., Mutlugun E., Hernandez-Martinez P. L., Sharma V. K., Lesnyak V., Gaponik N., Eychmueller A., Demir H. V.
NANOSCALE, vol.5, no.15, pp.7034-7040, 2013 (SCI-Expanded)
- LVI. **Large-Area (over 50 cm x 50 cm) Freestanding Films of Colloidal InP/ZnS Quantum Dots**
Mutlugun E., Hernandez-Martinez P. L., Eroglu C., Coskun Y., Erdem T., Sharma V. K., Unal E., Panda S. K., Hickey S. G., Gaponik N., et al.
NANO LETTERS, vol.12, no.8, pp.3986-3993, 2012 (SCI-Expanded)
- LVII. **Excitonic enhancement of nonradiative energy transfer from a quantum well in the optical near field of energy gradient quantum dots**
Nizamoglu S., Hernandez-Martinez P. L., Mutlugun E., Karatay D. U., Demir H. V.
APPLIED PHYSICS LETTERS, vol.100, no.24, 2012 (SCI-Expanded)
- LVIII. **Quantum dot integrated LEDs using photonic and excitonic color conversion**
Demir H. V., Nizamoglu S., Erdem T., Mutlugun E., Gaponik N., Eychmueller A.
NANO TODAY, vol.6, no.6, pp.632-647, 2011 (SCI-Expanded)
- LIX. **Photocatalytic hybrid nanocomposites of metal oxide nanoparticles enhanced towards the visible spectral range**
Perkgoz N. K., Toru R. S., Unal E., Sefunc M. A., Tek S., Mutlugun E., Soganci I. M., Celiker H., Celiker G., Demir H. V.
APPLIED CATALYSIS B-ENVIRONMENTAL, vol.105, pp.77-85, 2011 (SCI-Expanded)
- LX. **Spatially Selective Assembly of Quantum Dot Light Emitters in an LED Using Engineered Peptides**
Demir H. V., Seker U. O. S., Zengin G., Mutlugun E., Sari E., Tamerler C., Sarikaya M.
ACS NANO, vol.5, no.4, pp.2735-2741, 2011 (SCI-Expanded)
- LXI. **Anisotropic Emission from Multi layered Plasmon Resonator Nanocomposites of Isotropic Semiconductor Quantum Dots**
Ozel T., Nizamoglu S., Sefunc M. A., Samarskaya O., Ozel I. O., Mutlugun E., Lesnyak V., Gaponik N., Eychmuller A., Gaponenko S. V., et al.
ACS NANO, vol.5, no.2, pp.1328-1334, 2011 (SCI-Expanded)
- LXII. **Photovoltaic nanopillar radial junction diode architecture enhanced by integrating semiconductor quantum dot nanocrystals as light harvesters**
Guzelturk B., Mutlugun E., Wang X., Pey K. L., Demir H. V.
APPLIED PHYSICS LETTERS, vol.97, no.9, 2010 (SCI-Expanded)
- LXIII. **Highly efficient nonradiative energy transfer mediated light harvesting in water using aqueous CdTe quantum dot antennas**
Mutlugun E., Samarskaya O., Ozel T., Cicek N., Gaponik N., Eychmueller A., Demir H. V.
OPTICS EXPRESS, vol.18, no.10, pp.10720-10730, 2010 (SCI-Expanded)
- LXIV. **Highly efficient nonradiative energy transfer using charged CdSe/ZnS nanocrystals for light-harvesting in solution**
Mutlugun E., Nizamoglu S., Demir H. V.
APPLIED PHYSICS LETTERS, vol.95, no.3, 2009 (SCI-Expanded)
- LXV. **Structural tuning of color chromaticity through nonradiative energy transfer by interspacing CdTe**

nanocrystal monolayers

Cicek N., Nizamoglu S., Ozel T., Mutlugun E., Karatay D. U., Lesnyak V., Otto T., Gaponik N., Eychmueller A., Demir H. V.

APPLIED PHYSICS LETTERS, vol.94, no.6, 2009 (SCI-Expanded)

- LXVI. **Selective enhancement of surface-state emission and simultaneous quenching of interband transition in white-luminophor CdS nanocrystals using localized plasmon coupling**
Ozel T., Soganci I. M., Nizamoglu S., Huyal I. O., Mutlugun E., Sapra S., Gaponik N., Eychmueller A., Demir H. V.
NEW JOURNAL OF PHYSICS, vol.10, 2008 (SCI-Expanded)
- LXVII. **Tuning shades of white light with multi-color quantum-dot-quantum-well emitters based on onion-like CdSe-ZnS heteronanocrystals**
Demir H. V., Nizamoglu S., Mutlugun E., Ozel T., Sapra S., Gaponik N., Eychmueller A.
NANOTECHNOLOGY, vol.19, no.33, 2008 (SCI-Expanded)
- LXVIII. **Photovoltaic nanocrystal scintillators hybridized on Si solar cells for enhanced conversion efficiency in UV**
Mutlugun E., Soganci I. M., Demir H. V.
OPTICS EXPRESS, vol.16, no.6, pp.3537-3545, 2008 (SCI-Expanded)
- LXIX. **Dual-color emitting quantum-dot-quantum-well CdSe-ZnS heteronanocrystals hybridized on InGaN/GaN light emitting diodes for high-quality white light generation**
Nizamoglu S., Mutlugun E., Ozel T., Demir H. V., Sapra S., Gaponik N., Eychmueller A.
APPLIED PHYSICS LETTERS, vol.92, no.11, 2008 (SCI-Expanded)
- LXX. **White emitting CdS quantum dot nanoluminophores hybridized on near-ultraviolet LEDs for high-quality white light generation and tuning**
Nizamoglu S., Mutlugun E., Akyuz O., Perkgoz N. K., Demir H. V., Liebscher L., Sapra S., Gaponik N., Eychmueller A.
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- LXXI. **Localized plasmon-engineered spontaneous emission of CdSe/ZnS nanocrystals closely-packed in the proximity of Ag nanoisland films for controlling emission linewidth, peak, and intensity**
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- I. **Solid-State Encapsulation and Color Tuning in Films of Cesium Lead Halide Perovskite Nanocrystals for White Light Generation**
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- II. **Plasmon Enhanced Emission of Perovskite Quantum Dot Films**
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Papers Published in Refereed Scientific Meetings

- I. **Simple, sustainable fabrication of fully solution-processed, transparent, metal-semiconductor-metal photodetectors using a surgical blade as an alternative to conventional tools**
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- II. **Color Simulation and Demonstration of Perovskite Nanocrystal Filters for Wide Color Gamut Displays**
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- III. **Effect of ionic liquids on Cu₂S counter electrode-based quantum dot-sensitized solar cells**
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- V. **The Effect of Tetraethylorthosilicate on the Performance of CdSe/ZnS Core-shell Quantum Dots Sensitized Solar Cells (QDSSC)**
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The International Conference on Materials Science, Machine and Automotive Engineering and Technology, 10 - 12 April 2018
- VI. **Arrays of multi-color emitting cesium lead halide perovskite nanocrystals and efficient white light generation by tailored anion exchange reactions and electrohydrodynamic jet printing**
ALTINTAS Y., TÖRÜN İ., YAZICI A. F., Beskazak E., ÖNSES M. S., MUTLUGÜN E.
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- VII. **Plasmon Enhanced Emission of Perovskite Quantum Dot Films**
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- VIII. **The Effect of Fourth Color Component on Color Gamut Enhancement**
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30th Annual Conference of the IEEE-Photonics-Society (IPC), Florida, United States Of America, 1 - 05 October 2017, pp.227-228
- X. **Optical Properties of High Quality Cd-free CuInS, CuInGaS and ZnAgInS Quantum Dots**
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- XI. **Synthesis and Characterization of High Quality Red Emitting CsPbBr_{3-x}I_{3-x} Perovskite QDs**
ALTINTAS Y., Beskazak E., MUTLUGÜN E.
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- XII. **Quantum Dot Integrated Nanofibers for White LEDs**
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Materials Research Society, MRS 2017 Spring Meeting, Arizona, United States Of America, 17 - 21 April 2017
- XIII. **Saturated Energy Transfer among InP/ZnS Quantum Dot Solids**
ALTINTAS Y., MUTLUGÜN E.
MRS 2017 Spring Meeting, Phoenix, United States Of America, 17 - 21 April 2017
- XIV. **Polymeric Nanocrystal Sheets for Efficient Lighting and Display Applications**
MUTLUGÜN E., ALTINTAS Y., GENÇ S., TALPUR M. Y.

Materials Research Society, MRS 2016 Fall Meeting, Boston, United States Of America, 27 November - 02 December 2016

- XV. **Nanocrystal Sheets for Efficient Lighting and Display Applications**
ALTINTAS Y., GENÇ S., Talpur M. Y., MUTLUGÜN E.
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- XVI. **InP/ZnS Based Nanocrystal Sheets For Biolabeling Applications**
ÜNLÜ M., ALTINTAS Y., MUTLUGÜN E.
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- XVII. **Computational study on NTSC color gamut enhancement using nano emitters**
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IEEE Photonics Conference 2016, Hawaii, United States Of America, 2 - 06 October 2016
- XVIII. **THE EFFECT OF ZN PRECURSOR ON THE ACHIEVEMENT OF HIGHLY EFFICIENT ECO-FRIENDLY COLLOIDAL SEMICONDUCTOR QUANTUM DOTS**
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32. International Physics Congress, Muğla, Turkey, 6 - 09 September 2016, pp.82
- XIX. **12th International Nanoscience and Nanotechnology Conference**
MUTLUGÜN E.
12th International Nanoscience and Nanotechnology Conference, 3 - 05 June 2016
- XX. **Overcoating Alloyed InPZnS Quantum Dots for Record High Quantum Efficiency and Narrow Size Distribution Through Optimized Precursor Concentration**
MUTLUGÜN E., ALTINTAS Y., Talpur M. Y., ÜNLÜ M.
Materials Research Society- MRS 2015 Fall Meeting, Boston, United States Of America, 29 November - 04 December 2015
- XXI. **Color tunable highly efficient Cd-free quantum dots utilized by core growth temperature effect**
ALTINTAS Y., Talpur M. Y., MUTLUGÜN E.
International Conference on Nanoscience and Nanotechnology for Next Generation NANONG2015, Antalya, Turkey, 29 - 31 October 2015, pp.35
- XXII. **Low cost large scale ordered ZnO nanopillar arrays for light extraction efficiency enhancement in quantum dot light emitting diodes**
Yang X., Kapil D., Wang J., MUTLUGÜN E., Dang C., Zhao Y., Tiam Tan S., Wei Sun X., DEMİR H. V.
2014 IEEE Photonics Conference, San Diego, CA, 12 - 16 October 2014
- XXIII. **Nanocrystal LEDs with enhanced external quantum efficiency enabled by the use of phosphorescent molecules**
MUTLUGÜN E.
26th IEEE Annual Photonics Society Meeting, Wa, United States Of America, 8 - 12 September 2013, pp.2
- XXIV. **Highly flexible full color top emitting quantum dot light emitting diode tapes**
Xuyong Y., MUTLUGÜN E., Yuan G., Yongbiao Z., Swee Tiam T., Xiao Wei S., DEMİR H. V.
2013 IEEE Photonics Conference, Bellevue, WA, USA, 8 - 12 September 2013
- XXV. **CdSe ZnS colloidal quantum dots for solution processed DFB lasers**
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- XXVI. **Large area 50 cm x 50 cm freestanding flexible optical membranes of Cd free nanocrystal quantum dots**
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IEEE Photonics Conference 2012, Burlingame, CA, USA, 23 - 27 September 2012
- XXVII. **Light harvesting semiconductor quantum dot nanocrystals integrated on photovoltaic radial junction nanopillars**
Burak G., MUTLUGÜN E., Xiadong W., Kin Leong P., DEMİR H. V.
2010 IEEE Photonic Society's 23rd Annual Meeting, Denver, CO, USA, 7 - 11 November 2010

- XXVIII. **FRET assisted organic dye molecules using in conjunction with colloidal quantum dots for bio labelling**
MUTLUGÜN E., DEMİR H. V.
2010 IEEE Photonic Society's 23rd Annual Meeting, Denver, CO, USA, 7 - 11 November 2010
- XXIX. **Observation of anisotropic emission from semiconductor quantum dots in nanocomposites of metal nanoparticles**
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- XXX. **Plasmon enhanced colloidal nanocrystal composites incorporating Au nanoparticles in a repeating layered architecture**
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- XXXIII. **Light harvesting positively charged nanocrystals for strong energy transfer to dye molecules**
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LEOS 2008 - 21st Annual Meeting of the IEEE Lasers and Electro-Optics Society, Newport Beach, CA, USA, 9 - 13 November 2008
- XXXIV. **Multi material specific targeted self assembly of nanocrystal emitters using genetically engineered peptides on optoelectronic microchips**
Gulis Z., Urartu Ozgur S., Asli K., MUTLUGÜN E., Ozgun A., Emre S., Mehmet S., Candan T., DEMİR H. V.
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- XXXV. **Surface state emission enhancement in white luminophor CdS nanocrystals using localized plasmon coupling**
Tuncay O., Murat S., Sedat N., Ozge H., MUTLUGÜN E., Sameer S., Nikolai G., Alexander E., DEMİR H. V.
LEOS 2008 - 21st Annual Meeting of the IEEE Lasers and Electro-Optics Society, Newport Beach, CA, USA, 9 - 13 November 2008
- XXXVI. **Multi layered CdSe ZnS CdSe heteronanocrystals to generate and tune white light**
Sedat N., MUTLUGÜN E., Tuncay O., DEMİR H. V., Sameer S., Nikolai G., Alexander E.
LEOS 2008 - 21st Annual Meeting of the IEEE Lasers and Electro-Optics Society, Newport Beach, CA, USA, 9 - 13 November 2008
- XXXVII. **Nanocrystal emitters for enhanced photovoltaics in UV**
MUTLUGÜN E., Ibrahim Murat S., DEMİR H. V.
LEOS 2008 - 21st Annual Meeting of the IEEE Lasers and Electro-Optics Society, Newport Beach, CA, USA, 9 - 13 November 2008
- XXXVIII. **Localized plasmon engineered spontaneous emission of CdSe ZnS nanocrystals closely packed in the proximity of Ag nanoislands**
Ibrahim Murat S., Sedat N., MUTLUGÜN E., DEMİR H. V.
LEOS 2007 - IEEE Lasers and Electro-Optics Society Annual Meeting Conference Proceedings, Lake Buena Vista, FL, USA, 21 - 25 October 2007
- XXXIX. **High Quality White Light Generation using Dually Hybridized Nanocrystals and Conjugated Polymers**
Sedat N., Tuncay O., MUTLUGÜN E., Ilkem Ozge H., Emre S., Nan T., Elisabeth H., DEMİR H. V.
LEOS 2007 - IEEE Lasers and Electro-Optics Society Annual Meeting Conference Proceedings, Lake Buena Vista, FL,

USA, 21 - 25 October 2007

- XL. **White CdS Nanoluminophore based Tunable Hybrid Light Emitting Diodes**
Sedat N., MUTLUGÜN E., Ozgun A., Nihan Kosku P., DEMİR H. V., Lydia L., Sameer S., Nikolai G., Alexander E.
LEOS 2007 - IEEE Lasers and Electro-Optics Society Annual Meeting Conference Proceedings, Lake Buena Vista, FL, USA, 21 - 25 October 2007
- XLI. **CdSe ZnS core shell nanocrystal based scintillators for enhanced detection in UV**
DEMİR H. V., Ibrahim S., MUTLUGÜN E.
2006 IEEE LEOS Annual Meeting Conference Proceedings, Montreal, QC, Canada, 29 October - 02 November 2006
- XLII. **Size effect in optical activation of TiO₂ nanoparticles in photocatalytic process**
Ibrahim S., MUTLUGÜN E., Sumeysra T., DEMİR H. V., Dilek Y., Gulsen C.
2006 IEEE LEOS Annual Meeting Conference Proceedings, Montreal, QC, Canada, 29 October - 02 November 2006

Supported Projects

Mutlugün E., ERDEM T., TUBITAK Project, İleri Malzeme Yüksek Teknoloji Platformları ile Elektronik ve Optik Bileşen Üretimi için Stratejik Ar-Ge Birliği, 2021 - 2024

Mutlugün E., Company, Kuantum Nokta LED aygıtların geliştirilmesi, 2021 - 2023

Alan I., Mutlugün E., Usta H., Gencer Akçok E. B., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Merkezi Araştırma Laboratuvarı Projesi, 2014 - 2022

Mutlugün E., KOSGEB, Ekstrüzyon ile Nanokristalli Ekran Bileşeni Geliştirilmesi, 2020 - 2021

Mutlugün E., TUBITAK Project, LCD Ekranlar için Nanokristalli Işık Kılavuz Tabakası, 2019 - 2021

Mutlugün E., TUBITAK Project, Hibrit Kuantum Noktacık-Nanofiber Esnek Elektrolüminesant Aygıtlar, 2017 - 2019

Mutlugün E., TUBITAK Project, LCD ekranlarda renk zenginleştirme, 2015 - 2017

Mutlugün E., TUBITAK Project, Esnek Kuantum Noktacık Tabanlı Platformlarda Üretilen Yenilikçi Organik Işık Saçan Diyotlar, 2014 - 2017

Memberships / Tasks in Scientific Organizations

TUBITAK, Member of Advisory Board, 2021 - Continues, Turkey

Metrics

Publication: 119

Citation (WoS): 2111

Citation (Scopus): 2627

H-Index (WoS): 28

H-Index (Scopus): 30

Congress and Symposium Activities

Materials Research Society 2016 Fall Meeting -Polymeric Nanocrystal Sheets for Efficient Lighting and Display Applications, Attendee, United States Of America, 2016

23rd IEEE Annual Photonics Society Meeting/Light-harvesting semiconductor quantum dot nanocrystals integrated on photovoltaic radial junction nanopillars, Attendee, United States Of America, 2010

Nanotechnology Days, Invited Speaker, Bursa, Turkey, 2010

METU Department of Physics, Invited Speaker, Ankara, Turkey, 2009

Workshop on Nanoelectronics and Nanophotonics, Invited Speaker, Çankırı, Turkey, 2009

TUBITAK-Helmholtz Association Workshop, Invited Speaker, Kocaeli, Turkey, 2008

4. Industrial Engineering Summit Meeting (EMSAZ 2008), Invited Speaker, Bursa, Turkey, 2008
Nanoscience and Nanotechnology Conference (NANOTR IV), Invited Speaker, İstanbul, Turkey, 2008
Nanotechnology Days, Invited Speaker, Ankara, Turkey, 2007

Scholarships

Graduate Student Award, Other International Organizations, 2010 - Continues

Awards

Mutlugün E., Genç Bilim İnsanı, Bilim Kahramanları Derneği, April 2019

MUTLUGÜN E., GEBİP, TÜBA, November 2017

MUTLUGÜN E., Global Young Academy Membership, Global Young Academy, June 2016

MUTLUGÜN E., The Science Academy Young Scientist Award, BAGEP, June 2014

MUTLUGÜN E., Outstanding Scientist Award for the research works on the "light generation using quantum dots, FABED, May 2014