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Research

Nano Optics, Biosensors, Bioelectromagnetics, Biophotonics, Numerical Simulation and Modeling, Nonlinear Plasmonic, Low Noise Measurement Circuit Design

Journal Papers

- Tahereh Tekieh, Sohrab Shahzadi, Hashem Rafii Tabar, Pezhman Sasanpour, "Are Deformed Neurons Electrophysiologically Altered? A Simulation Study", *Current Applied Physics*, (2016), Vol. 16 (10), 1413-1417.
- Mohsen Paryavi, Abbas Montazeri, Tahereh Tekieh, Pezhman Sasanpour, "Nanoscale Deflection Detection of a Cantilever-Based Biosensor using MOSFET Structure: A Theoretical Analysis", *Superlattices and Microstructures*, (2016), Vol. 98, 116-120.
- Tahereh Tekieh, Pezhman Sasanpour, Hashem Rafii-Tabar, "Effects of electromagnetic field exposure on conduction and concentration of voltage gated calcium channels: A Brownian dynamics study", *Brain Research*, (2016), Vol. 1646, 560-569..
- Tahereh Tekieh, Pezhman Sasanpour, Hashem Rafii-Tabar, "Neurophysiological Effect of External Electromagnetic Field; A Computational Modeling", *NANO*, (2016), Vol. 11, 1650111.
- Neda Rafieiolhosseini, Michaela Poplová, Pezhman Sasanpour, Hashem Rafii-Tabar, Mahsa Rafiee Alhossaini, Michal Cifra, "Photocount statistics of ultra-weak photon emission from germinating mung bean", *Journal of Photochemistry and Photobiology B: Biology*, (2016), Vol. 162, 50-55.
- Pezhman Sasanpour, Raheleh Mohammadpour, "Trap density measurement in three-dimensional nanostructured photoelectrode of titanium dioxide with various morphologies", *Applied Physics A*, (2016), Vol. 122, Issue. 4, 1-6.
- Hossein Samadinia, Mohammad Reza Razaghi, Mohammadreza Hormozi Nezhad, Hashem Rafii-Tabar, Pezhman Sasanpour, "Effect of size and geometry of gold nanostructures in performance of laser-based hyperthermia: a multiscale-multiphysics modelling", *Journal of Physics: Conference Series*, (2016), Vol. 673, Issue. 1, 012003.
- M. Adeli, F. Madani, P. Sasanpour, B. Rashidian, "*Synthesis of Graphene/Gold Hybrid Nanomaterials by Poly(ethylene glycol) Linkers*", *Scientia Iranica. Transaction F, Nanotechnology*, (2014), Vol. 21 (3), 1163.
- P. Sasanpour, R. Mohammadpour, "Theoretical Calculation of Scattering Efficiency of Isotropic and Anisotropic Scattering Particles Employed in Nanostructured Solar Cells", *Journal of Optics*, (2014), Vol. 16, No. 5, 055703 (**Selected as Highlights of 2014**).
- Navid Yasrebi, Behrang Bagheri, Payam Yazdanfar, Bizhan Rashidian, Pezhman Sasanpour, "Optimization of Sputtering Parameters for the Deposition of Low Resistivity Indium Tin Oxide (ITO) Thin Films", *Acta Metallurgica Sinica (English Letters)* (2014), Vol. 27 (2), 324-330.
- Mohsen Adeli, Masoumeh Ashiri, Beheshteh Khodadadi Chegeni, Pezhman Sasanpour, "*Tumor-targeted drug delivery systems based on supramolecular interactions between iron oxide-carbon nanotubes PAMAM-PEG-PAMAM linear-dendritic copolymers*", *J Iran Chem Soc. SPRINGER*, (2013), Vol. 10:701-708.
- Mohsen adeli, Ebrahim mehdipoor, Masoumeh Bavadi, Pezhman Sasanpour, Masoumeh Ashiri and Bizhan Rashidian, " *A possible anticancer drug delivery system based on carbon nanotube-dendrimer hybrid nanomaterials* ", *J. Matrial Chemistry*, (2011), Vol. 21, 15456-15463.

- Morteza Mahmoudi, Mohammad Shokrgozar, Pezhman Sasanpour, Bizhan Rashidian, Houshang Amiri, Sophie Laurent, Maria Casula and Alessandro Lascialfari, "Raman active jagged-shaped gold-coated magnetic particles as a novel multimodal nanoprobe", Chem Communication, (2011), Vol. 47, 10404-10406.
- Pezhman Sasanpour, Bizhan Rashidian, and Manouchehr Vossoughi, "Fluorescent Microscopy Using Localized Excitation Source with Gold Nanotriangles; A Computational Study", Photonics and Nanostructures - Fundamentals and Applications, Vol. 9 (2011), 219-224 .
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- F Mohagheghian, P Sasanpour, H Rafii-Tabar, "Effect of geometry on propagation of action potentials in neurons; an in silico analysis", IEEE 35th International Conference on ELECTRONICS AND NANOTECHNOLOGY ELNANO-2014 APRIL 2014, **Kyiv, Ukraine**.
- P Sasanpour, R Mohammadpour, K Amiri , "Neural implant stimulation based on TiO 2 nanostructured arrays; a multiphysics modeling verification", Biomedical Engineering and Sciences (IECBES), 2014 IEEE Conference on, 677-680, **Malaysia**.
- Ali Karimizefreh, Efat Jokar, Maryam Vaezjalali, Raheleh Mohammadpour and Pezhman Sasanpour, "Human Papilloma Virus Biosensor based on Electrochemical Impedance Spectroscopy of DNA Hybridization", IEEE 34th International Conference on ELECTRONICS AND NANOTECHNOLOGY ELNANO-2014 APRIL 2014, **Kyiv, Ukraine**.
- A. Karimizefreh, R. Mohammadpour, M. Vaezjalali, P. Sasanpour, "Electrochemical Impedance Sensing of Human Papilloma Virus through DNA Hybridization on TiO2 Nanotubes Arrays", 5th International Conference on Nanostructures (ICNS5), March 2014, **Kish Island, Iran**.
- Raheleh Mohammadpour, Pezhman Sasanpour, "Nanoelectrode Array for Biological Cell Characterization; A theoretical Investigation", Second Conference on Nanotechnology for Biological and Biomedical Applications (Nano-Bio-Med 2013), **Trieste, Italy (Best Poster Award)**.
- Raheleh Mohammadpour, Pezhman Sasanpour, "Effect of Size, Shape and Composition of Quantum Dots as probes for in vivo Time Resolved Fluorescence Spectroscopy; A Monte Carlo

Study", Second Conference on Nanotechnology for Biological and Biomedical Applications (Nano-Bio-Med 2013), **Trieste, Italy (Best Poster Award)**

- Pezhman Sasanpour, Raheleh Mohammadpour, "*Designing scattering nanoparticles as carriers of photosensitizing agents for Photodynamic therapy*", ChinaNano 2013, **Beijing, China**.
- R. Mohammadpour, P. Sasanpour, "*Size-Dependent Light Scattering Effect of Nanostructures for Dye Sensitized Solar Cell- A Theoretical Analysis*", **Accepted** for IEEEENANO 2013.
- P. Sasanpour, R. Mohammadpour, "Simple theoretical method for calibration of surface plasmon resonance DNA-sensor based on metallic nanoparticles", ICMAS (International Conference on Materials and Applications for Sensors and Transducers) Sept. 2013, **Prague, Czech Republic**.
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- Pezhman Sasanpour, Mohammad Haghnegahdar, Milad Taherian, and Bizhan Rashidian, "*Nanodistance Measurement based on CD pick-up Head using Auto Offset Canceller Amplifier*", 6th Nanoscience and Nanotechnology Conference (NanoTR6), June15-18, 2010, **Izmir, Turkey**.
- Pezhman Sasanpour, Bizhan Rashidian, and Manouchehr Vosoughi, "*Enhancement of Fluorescent Microscopy for Single Molecule Detection (SMD) Based on Third Order Nonlinear Susceptibility; a Computational Study*", NS2010, March 10-12, 2010, **Kish Island, Iran**.
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Patent

- Pezhman Sasanpour, Mohammad Haghnegahdar, and Bizhan Rashidian, "Sub 10um Movement detection using optical pick-up Head of CD Drives", Iran.