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## Research Interests

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Biophotonics, Biosensors, Neural Engineering, Bioelectromagnetics, Low Noise Measurement Circuit Design

## Patents

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- Somayeh Alimohammadi, Mohammad Imani, Mohammad Ali Kiani, **Pezhman Sasanpour**, “**Microsensor for a cochlear implant**”, US Patent App. 17/106,113
- **Pezhman Sasanpour**, Mitra Abedini, and Raheleh Mohammadpour, “**Liquid Refractive Index Sensor based on Surface Plasmon Resonance in Optical Fibers**”, Iran,
- **Pezhman Sasanpour**, Mohammad Haghnegahdar, and Bizhan Rashidian, “**Sub 10um Movement detection using optical pick-up Head of CD Drives**”, Iran.

## Journal Papers

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- M. Abedini, R. Mohammadpour, H. Rafei-Tabar, and **P. Sasanpour**, "Nanomaterials as a nano-material for use in laser-induced hyperthermia in biological tissues: A multiphysics-based computational modeling approach." *International Journal of Thermal Sciences* 196 (2024): 108712.
- M. Sehati, H. Rafei-Tabar, and **P. Sasanpour**, "Computational modeling of the variation of the transmembrane potential of the endothelial cells of the blood-brain-barrier subject to an external electric field." *Biomedical Physics & Engineering Express* 9, no. 6 (2023): 065009.
- Z. Hosseindokht, M. Kolahdouz, B. Hajikhani, and **P. Sasanpour**, "Photoacoustic based evaluation of viscoelastic properties of Gram-negative and Gram-positive bacterial colonies." *Scientific Reports* 13, no. 1 (2023): 14656.
- M. Jannesari, Marziyeh, E. Asadian, F. Ejehi, N. J. English, R. Mohammadpour, and **P. Sasanpour**, "Boosting on-demand antibacterial activity using electrical stimulations from polypyrrole-graphene oxide triboelectric nanogenerator." (2023) *Nano Energy* 112: 108463.
- R. Nazari-Vanani, M. Vafaiee, E. Asadian, R. Mohammadpour, H. Rafei-Tabar, and **P. Sasanpour**, "Enhanced proliferation and migration of fibroblast cells by skin-attachable and self-cleaning triboelectric nanogenerator.", (2023) *Biomaterials Advances* 149: 213364.
- M. Abedini, H. Montazeri, E. Lotfali, R. Ghasemi, S. Badiyan, and **P. Sasanpour**, "Rapid discrimination of *Candida* species based on optical diffraction pattern.", (2023) *Journal of Photochemistry and Photobiology B: Biology* 240: 112630.
- F. Zamanpour, L. Shooshtari, M. Gholami, R. Mohammadpour, **P. Sasanpour**, and N. Taghavinia. "Transparent and flexible touch on/off switch based on BaTiO<sub>3</sub>/silicone polymer triboelectric nanogenerator.", (2022) *Nano Energy* 103: 107796.
- E. Afjeh-Dana, E. Asadian, M. R. Razzaghi, H. Rafei-Tabar, and **P. Sasanpour**, "Deflection-based laser sensing platform for selective and sensitive detection of H<sub>2</sub>S using plasmonic nanostructures." , (2022) *Scientific Reports* 12, no. 1: 15789.

- F. Ejehi, L. Shooshtari, R. Mohammadpour, E. Asadian, and **P. Sasanpour**, "Self-powered ultraviolet/visible photodetector based on graphene-oxide via triboelectric nanogenerators performing by finger tapping.", (2022) *Nanotechnology* 33, no. 47: 475205.
- R. Nazari-Vanani, R. Mohammadpour, E. Asadian, H. Rafii-Tabar, and **P. Sasanpour**, "A computational modelling study of excitation of neuronal cells with triboelectric nanogenerators.", (2022) *Scientific Reports* 12, no. 1: 13411.
- S. Mohammadi, H. Rafii-Tabar, and **P. Sasanpour**, "A modeling study of the effect of an alternating magnetic field on magnetite nanoparticles in proximity of the neuronal microtubules: A proposed mechanism for detachment of tau proteins.", (2022) *Computer Methods and Programs in Biomedicine* 222: 106913.
- S. Mohammadi, H. Rafii-Tabar, and **P. Sasanpour**, "Contribution of the dipole–dipole interaction to targeting efficiency of magnetite nanoparticles inside the blood vessel: A computational modeling analysis with different magnet geometries.", (2022) *Physics of Fluids* 34.3: 033601.
- A. H. Atabaki, A. Montazeri, H. Rafii-Tabar, **P. Sasanpour**, "Determination of the optimal location of samples on quartz tuning fork-based biosensors: a computational study", (2021) *Biomedical Physics & Engineering Express*, 7,6.
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- S Jafarinejad, A Bigdeli, M Ghazi-Khansari, **P Sasanpour**, "Identification of Catecholamine Neurotransmitters Using a Fluorescent Electronic Tongue", (2020), *ACS chemical neuroscience* 11 (1), 25-33 (**Cover of Journal**).
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  - **Pezhman Sasanpour**, Raheleh Mohammadpour, "*Designing scattering nanoparticles as carriers of photosensitizing agents for Photodynamic therapy*", ChinaNano 2013, **Beijing, China**.
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