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## Nano-Robots: Future revolution in dentistry

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Nano-robots have been considered as one of the most significant developments and achievements of nanotechnology in medicine and medical sciences. "Nano-robots" are deemed controllable devices at the size of nanometer. Owing to their diverse capabilities and potentials, "Nano-robots" are widely used to perform different tasks, for instance inspections and operations, treatment of diseases and maladies in the human body, and nowadays, delivery of drugs to divergent targets like cancer cells. Similarly, "Nano-robots" used in dental medicine – known as Dental Robots (DR) – could fulfill various tasks including: inducing local anaesthesia, curing hypersensitivity, re-naturalizing dentition, destroying caries-causing bacteria, repairing tooth blemishes, and so forth at oral cavity level. DRs have a nano-computer which accomplishes planned missions, receives and processes signals, communicates with other nano-computers, responds to external monitoring devices and finally has the potential to ensure proper functioning of nano-mechanical machines. DRs might also use a certain motility mechanism to penetrate human dental tissues with navigation precision and receive energy to manipulate their surrounding in real time. The nano-robots are mostly invisible to the naked eye, thus they are visualized by advanced machinery like "Scanning Electron Microscopy (SEM)" and "Atomic Force Microscopy (AFM)".Although research and clinical trials on nano-robots are in their early stage, it is believed that nano-robots will be the next huge revolution in the world of Dentistry. However, it may also present a risk for misuse. Time, economics, technical strategies and human needs will direct and determine the route this innovative invention may take.

## **Biography**

Ms Samira Hosseini was admitted to Shahid Beheshti University of Medical Sciences as a Dentistry Student in 2013. Currently, she is serving as a fifth-year dental student and next to being an active member of SBMU "Committee of Gifted Students", has participated in a number of academic and research activities, including "Poster Presentations" at IADR (Iranian Division) 2017, 17<sup>th</sup> International Congress of Iranian Academy of Periodontology 2017, 17<sup>th</sup> International Congress of Iranian Association of Prosthodontics 2017, EXCIDA 2017, an oral presentation at IADR (Iranian Division) 2016, a poster participation at OMFS Congress 2016, Tehran and a faculty research project in 2015.

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