Lipid Structures in Microelectromechanics(Mems) and Their Use in the Drug Delivery

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Knowing the microelectromechanical and thermodynamics properties of the lipid bilayer (for example those from the structure of the cell membrane) we are trying to conduct a theoretical and experimental research on lipid applications in the field of MEMS (Microelectromechanics) and and a possible procedure of drug delivery directly in the damaged cells. At this moment, this project is mainly theoretical but we think that in the near future we can develop a possible collection of miniaturized motors in analogy with the study of cytoplasmic movement. In our daily life we deal with different health problems. For these, most treatments are based on a combination of pills. This mixture can damage our body and affect our lifestyle. For this problem we think that we can develop a new method in DDS (Drug delivery system) to increase their efficiency, the effect of the treatment and a better compatibility for our body. We can estimate some practical objectives but those do not cover all the applicative field aspects: MEMS: - Electrostatic micromotors. - Microelectromechanical issues such as; micro and nano-bearings, micro and nano-support guides. - Micro or nano electrostatic movements. DRUG DELIVERY: - Geometric models - Rheological micromechanical models(Rheological micromechanical models assimilates both the lipid support structure and the drug structure as a continuous medium) - Microelectrostatical models Both, the lipids microelectromechanical (MEMS) project and the drug carrying project in injured cells are a complex research topic that deserves further development with extensive applicability in the field of engineering and pharmaceuticals.

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