



# DRUG DELIVERY SYSTEM USING QUANTUM COMPUTING

**CALL FOR BOOK CHAPTERS**

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## ABOUT BOOK

Most therapeutic agents suffer from poor solubility, rapid clearance from the blood stream, a lack of targeting, and often poor translocation ability across cell membranes. Drug delivery systems (DDSs) are capable of overcoming some of these barriers to enhance delivery of drugs to their right place of action, e.g., inside cancer cells. Complementary experimental and computational studies have enhanced our understanding of the mechanism of action of nanocarriers and their underlying interactions with drugs, bio membranes and other biological molecules. In this book We will discuss about a key biophysical aspect of DDSs and discuss how computer modeling can assist in rational design of DDSs with improved and optimized properties.

## TOPIC OF INTERESTS (BUT NOT LIMITED TO)

1. Introduction to quantum computational technologies in drug delivery and drug discovery system.
2. Role of quantum computing modelling in targeted drug delivery of nanoparticles.
3. Drug delivery strategies with dendrimers by Quantum Computational simulation method
4. Quantum Computational simulation of drug delivery strategies with polymers
5. Role of Quantum Computational simulation in Drug delivery strategies with liposomes
6. Application of Quantum Computational simulation in drug delivery strategies with carbon nanotubes
7. Drug delivery at molecular level: a concept of Quantum Computational simulation
8. Computational approaches for rational design of nano emulsions, polymeric micelles and dendrimers for drug delivery
9. Uses of Quantum Computational simulation for chemical modification and surface functionalization
10. Molecular dynamics simulation studies of cell membrane internalization of carbon nanotubes
11. Quantum Computational modelling of drug release from drug delivery devices
12. Drug and gene delivery systems based on Quantum Computational studies
13. Exploring nano-based therapeutics by Quantum Computational modelling
14. Drug design & Quantum Computational method
15. Challenges and emerging problems in CADD
16. Molecular simulation in drug delivery
17. Molecular dynamics simulation of carbon nanotube cell membrane interactions
18. Quantum Computational methods & Computer aided drug design in transdermal drug delivery of nanoparticles

### Important Dates

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