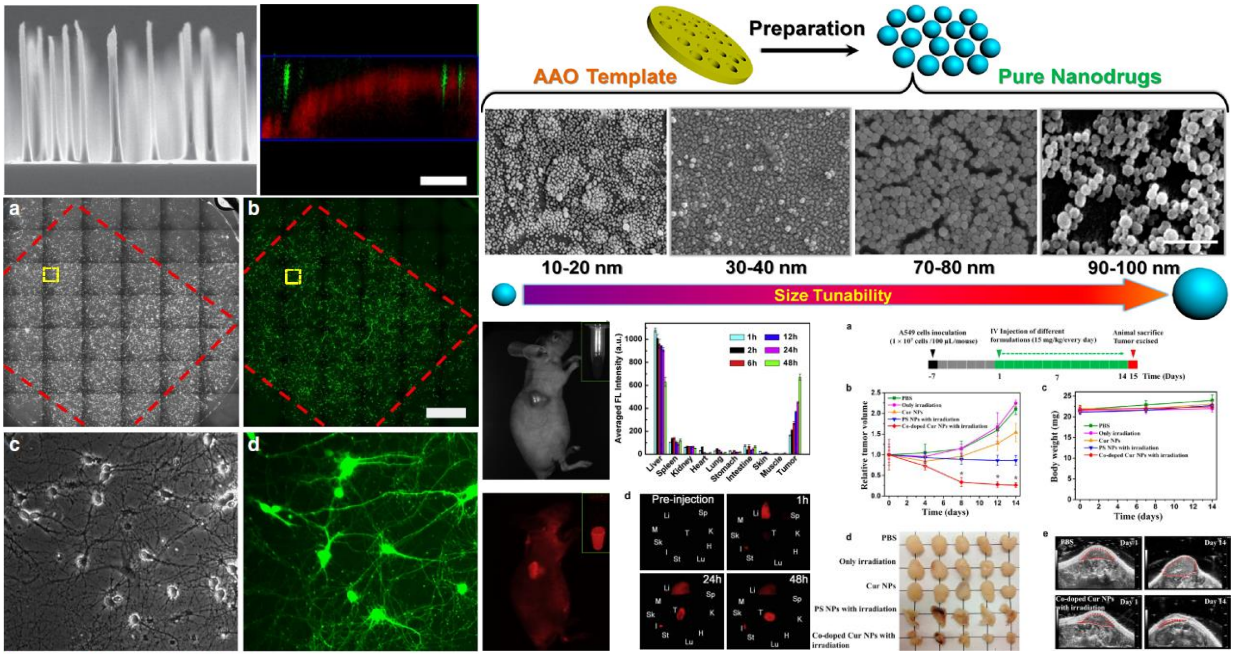
Proceedings of the 9th World Congress on New Technologies (NewTech'19)
Lisbon, Portugal – August 18 - 20, 2019
DOI: 10.11159/icbb19.02

Nanotechnologies for Advanced Drug Delivery Systems

Dr. Michael Chen
The University of Edinburgh, UK

Abstract

The market for advanced drug delivery systems is rising rapidly, because both clinical therapy and basic biological research rely on novel and innovative delivery techniques. In this conference, I would like to introduce our research development in innovating and improving nanotechnologies based drug delivery, including diamond nanoneedle arrays for high-throughput intracellular delivery, and nanoparticles for enhanced cancer therapy and tumour imaging.



References:

1. ***X Chen***, Current and future technological advances in transdermal gene delivery, ***Advanced Drug Delivery Reviews***, 127, 85-105, 2018.
2. ***X Chen***, WJ Zhang, Diamond nanostructures for drug delivery, bioimaging, and biosensing, ***Chemical Society Reviews***, 46, 734-760, 2017.
3. SH Liu, Y Fu, GJ Li, L Li, HKW Law, ***X Chen***, F Yan, Conjugated polymer for voltage-controlled release of molecules, ***Advanced Materials***, 29(35), 1701733, 2017.
4. L Yan, MJ Zhou, XJ Zhang, LB Huang, W Chen, VAL Roy, WJ Zhang, ***X Chen***, A novel type of aqueous dispersible ultrathin layered double hydroxide nanosheets for in vivo bioimaging and drug delivery, ***ACS Applied Materials & Interfaces***, 9(39), 34185-34193, 2017.
5. XY Zhu, MF Yuen, FJ Ai, L Yan, Y Yang, KN Yu, G Zhu, WJ Zhang, ***X Chen***, Diamond- nanoneedle-array-facilitated intracellular delivery and the potential influence on cell physiology, ***Advanced Healthcare Materials***, 5(10) 1157-1168, 2016.
6. JF Zhang, YN Li, FF An, XH Zhang, ***X Chen***, CS Lee, Preparation and size control of sub-100 nm pure nanodrugs, Nano Letters, 15(1) 313-318, 2015.

7. Y Wang, Y Yang, L Yan, SY Kwok, W Li, ZG Wang, XY Zhu, GY Zhu, WJ Zhang, ***X Chen***, P Shi, Poking cells for efficient vector-free intracellular delivery, ***Nature Communications***, 5, 4466, 2014.

L Yan, Y Yang, WJ Zhang, ***X Chen***, Advanced materials and nanotechnology for drug delivery, ***Advanced Materials***, 26(31), 5533-5540, 2014.

8. L Yan, JF Zhang, CS Lee, ***X Chen***, Micro- and nanotechnologies for intracellular delivery, ***Small***, 10(22) 4487-4504, 2014.

9. J Yu, XJ Zhang, XJ Hao, XH Zhang, MJ Zhou, CS Lee, ***X Chen***, Near-infrared fluorescence imaging using organic dye nanoparticles, ***Biomaterials***, 35, 3356-3364, 2014.

10. ***X Chen***, G Zhu, Y Yang, B Wang, *et al.*, A diamond nanoneedle array for potential high-throughput intracellular delivery, ***Advanced Healthcare Materials***, 2(8) 1103-1107, 2013.