

Research Profile

Name: Fei Yang
Position: Associate Professor
Institute/division: Institute of Chemistry,
Chinese Academy of Sciences
Email: fyang@iccas.ac.cn
Tel: +86-10-62565822



SUMMARY OF MY RELEVANT RESEARCH AREAS:

Brief summary of your research areas, in English *just a short paragraph please*

Design, synthesis, modification and fabrication of biodegradable polymers especially polylactones for applications in drug delivery and Tissue Engineering and regeneration.

Brief summary of your research areas, in Chinese *we will translate this for non-Chinese speaking UK participants*

聚内酯类可降解生物材料的设计、合成、改性及加工成型，及其在药物控制释放和组织工程与再生中的应用。

Primary Research interests: *A fuller description of your main research areas.*

My main research area is clinical applications of biomaterials. Based on clinical requirements, I design and synthesis of biodegradable polymers with suitable physical and chemical properties including molecular structure, biomechanics, degradation behaviour, active groups. I focus on techniques to fabricate scaffolds, implants and micro/nano particles. To meet the needs in living body, bulk and surface modification techniques are developed or adopted to introduce living groups and bioactivator, or gain better properties. Products above are used in drug delivery system including long-term, responsive drug release and targeting drug delivery. And they are also adopted in tissue engineering to regenerate bone, cartilage, spinal cord and intervertebral discs. Some special applications are also studied including a combined system of diagnosis with ultrasonic image and MRI and treatment with responsive drug delivery used in cardiovascular medicine, as well as a combined system of local long-term drug release and bone tissue engineering used in bone tuberculosis.

Topics in which you would like to develop collaborative research:

Please indicate here research areas for which you would like to find partners to undertake joint research.

My primary research interests are clinical applications of biomaterials especially cartilage and bone tissue engineering, and diagnosis and treat agents.

Relevant existing collaborations (academic/clinical/commercial) inside or outside China.

Include here any relevant collaborations you have

Chinese PLA General Hospital (301), Chinese PLA 309 Hospital and Peking University Third Hospital.

Relevant graphics, figures, pictures:

Use this area to show pictures or scientific figures which illustrate your research

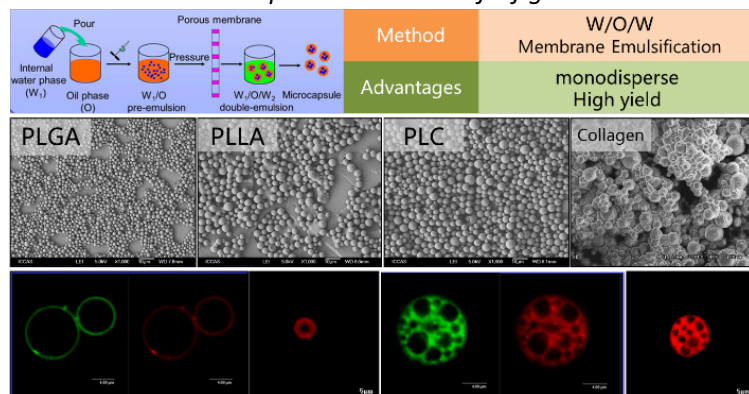


Fig. 1. Microcapsules for Drug Delivery System

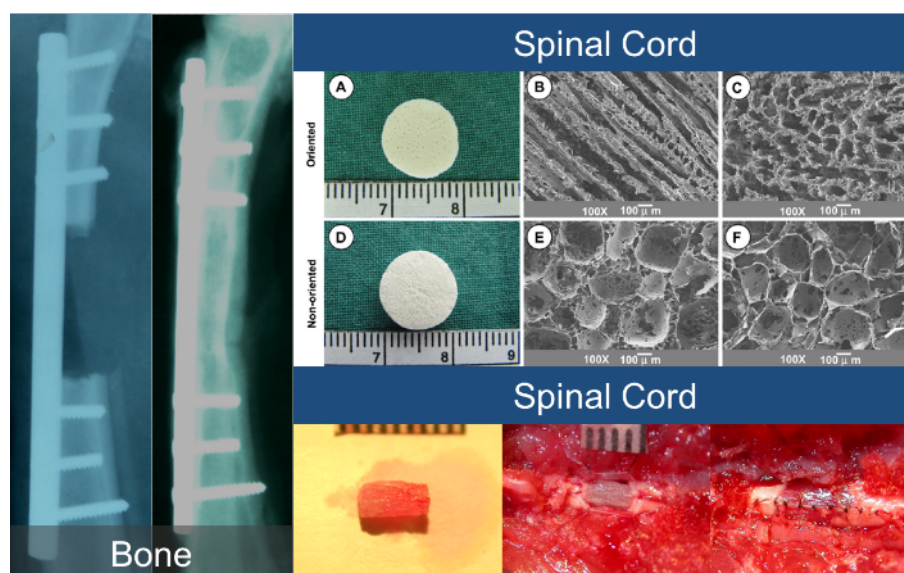


Fig.2 Tissue Engineering

Publications and other outputs relevant to your interest in this programme (up to 5)

Please give references to your key recent research publications

1. Yazhong Bu¹, Licheng Zhang¹, Jianheng Liu, Lihai Zhang, Tongtong Li, Hong Shen, Xing Wang, **Fei Yang**,* Peifu Tang,* Decheng Wu.* Synthesis and Properties of Hemostatic and Bacteria-Responsive in Situ Hydrogels for Emergency Treatment in Critical Situations. **ACS Applied Materials & Interfaces** 2016, 8: 12674-12683.
2. Da Huang¹, Dawei Li¹, Tiantian Wang, Hong Shen, Pei Zhao, Baoxia Liu, Yezi You, Yuanzheng Ma*, **Fei Yang**,* Decheng Wu,* Shenguo Wang. Isoniazid conjugated poly(lactide-co-glycolide): Long-term controlled drug release and tissue regeneration for bone tuberculosis therapy. **Biomaterials** 2015, 52: 417-425.
3. Pei Zhao, Dawei Li, **Fei Yang**,* Yuanzheng Ma, Tiantian Wang, Shun Duan, Hong Shen, Qing Cai,* Decheng Wu, Xiaoping Yang, Shenguo Wang. In vitro and in vivo drug release behavior and osteogenic potential of a composite scaffold based on poly(ϵ -caprolactone)-block-poly(lactide-co-glycolic acid) and β -tricalcium phosphate. **Journal of Materials Chemistry B** 2015, 3: 6885-6896.
4. Baoxia Liu¹, Xiao Zhou¹, **Fei Yang**,* Hong Shen, Shenguo Wang, Bo Zhang, Guang Zhi, Decheng Wu*. Fabrication of uniform sized polylactone microcapsules by premix membrane emulsification for ultrasound imaging. **Polymer Chemistry** 2014, 5: 1693-1701.
5. Sijia Xu¹, **Fei Yang**¹, Xiao Zhou, Yaping Zhuang, Baoxia Liu, Yang Mu, Xing Wang, Hong Shen, Guang Zhi, Decheng Wu.* Uniform PEGylated PLGA Microcapsules with Embedded Fe₃O₄ Nanoparticles for US/MR Dual-Modality Imaging. **ACS Applied Materials & Interfaces** 2015, 7: 20460-20468.

