Ze TANG, MBBS, Ph.D

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Education

Master of Technology in **Enterprise Business Analytics**, Jan 2017 –
Institute of Systems Science, National University of Singapore

PhD in **Cell Biology**, Sep 2007 – Jul 2013
Institute of Health Sciences,
Shanghai Institutes for Biological Sciences,
Chinese Academy of Sciences &
Shanghai Jiao Tong University School of Medicine

MS in **Immunology**, Sep 2005 – Jul 2007
Norman Bethune College of Medicine, Jilin University

BS in **Clinical Medicine**, Sep 1999 – Jul 2004
Norman Bethune College of Medicine, Jilin University

Work Experience

Siemens Healthineers, Laboratory Diagnostics
Jan 2014 – Feb 2016 | Shanghai, P.R.China

- **National Technical Application Specialist (Level 2)**

  - Troubleshooting Solution and Application Support
    Clinical Chemistry System (ADVIA and Dimension)
  - Application Training for customers and Application Specialists
    Clinical Chemistry System (ADVIA and Dimension)
    Nephelometric System (BN II and ProSpec)
  - Performance Verification (Proficiency testing)
  - EQA (External quality assessment)
  - Automation Workflow Project
    Remote control and data collection for Aptio automation

- **Biochemist**

  - Immunoassay (CLIA) Manufacturing Troubleshooting Solution
  - CAPA (Corrective Action / Preventive Action)
  - QA / QC (Quality assurance / Quality Control)
  - GMP / GLP
  - 2 months training in Boston for new manufactory project

Research Experience

Shanghai Ninth People's Hospital & Chinese Academy of Sciences

Sep 2007 – Jul 2013 | Shanghai
Advisor: Prof. Kerong Dai, MD, Fellow of the Chinese Academy of Engineering

- **Stem Cells and Tumor Microenvironment**
  The regulated genes of hMSCs in osteosarcoma microenvironment was identified by GSEA using microarray data and verified by qPCR (Roche Lightcycler 480 Real-Time PCR System), followed by viability, migration and invasion assays.

- **Biomaterials Evaluation for Medical Implants**
  The porous tantalum coating was evaluated by osteogenic differentiation of hMSCs using qPCR (Roche Lightcycler 480 Real-Time PCR System) and ALP immunofluorescence staining in vitro and rabbit femur histomorphology using double fluorescence labeling in vivo.

Professional Skills

Programming

Python; Java (SCJP Cert); C; Javascript; Matlab; Octave; Linux Shell (awk/sed/grep)

Data Mining, Machine Learning and Data Visualization

Python; R; JMP; SPSS; SAS

Bioinformatics

Bowtie2; BWA; Samtools; Bedtools; Tophat

Biochemistry, Molecular and Cell Biology

Roche Lightcycler 480 Real-Time PCR System & Reagent; ABI 7900HT/7500 Fast Real-Time PCR System; RNA isolation (Roche High Pure); Mesenchymal stem cell (MSC) isolation and culture; Multilineage induction of stem cells; Migration and invasion of tumor; cell transfection; Chemiluminescent detection; Western blot; In cell western; Co-IP

Clinical Laboratory Automation (IVD)

Aptio (Inpeco FlexLab) Automation System; CentraLink Data Management System (Middleware); ADVIA/Dimension Clinical Chemistry System; Centaur XP/CP Chemiluminescence Immunoassay System; BD Aria & Calibur flow cytometry; ADVIA 2120i Hematology System; BN II/ProSpec Nephelometric System; CAP; ISO 15189

Histopathology

Immunofluorescence (IF); Carl Zeiss / Leica Confocal microscopy; FFPE / Frozen / Hard tissue sectioning; IHC / Alizarin red / Oil red O / ALP staining; Histomorphometry with Bioquant/ImageJ

Medical Implant Animal Model

Micro-CT analysis with Siemens Inveon Research Workplace (IRW); XRD (X-ray diffraction) analysis with MDI Jade; Femoral condyle implant model; Double fluorescence labeling in vivo; Laboratory animal handling

Publications

- **Ze Tang**, Youtao Xie, Fei Yang, Yan Huang, Chuandong Wang, Kerong Dai, Xuebin Zheng, Xiaoling Zhang, Porous Tantalum coatings prepared by vacuum plasma spraying enhance BMSCs osteogenic differentiation and bone regeneration in vitro and in vivo. PLoS ONE, 8(6): e66263. doi: 10.1371/journal.pone.0066263

- Bing Tu, Lin Du, Qi-Ming Fan, **Ze Tang**, Ting-Ting Tang, STAT3 activation by IL-6 from mesenchymal stem cells promotes the proliferation and metastasis of osteosarcoma. Cancer Lett, 2012. 325(1): p. 80-8. doi: 10.1016/j.canlet.2012.06.006

- Chunxi Yang, Guangyin Yuan, Jia Zhang, **Ze Tang**, Xiaoling Zhang, Kerong Dai, Effects of magnesium alloys extracts on adult human bone marrow-derived stromal cell viability and osteogenic differentiation. Biomed Mater, 2010. 5(4): p. 045005. doi: 10.1088/1748-6041/5/4/045005

Patents

- Xiaoling Zhang, Youtao Xie, **Ze Tang**, Kerong Dai. 2014. Medical composite material with improved osseointegration performance. Application No. CN 201310163527, May 3, 2013, Publication No. CN104127913 A, Nov 5, 2014. Patent Pending