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ZHANG JINGYI

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EDUCATION

Southeast University (SEU, 985 Project) **Nanjing, China** **Aug. 2017 - June 2020**
- **M.S. in Biomedical Engineering,** Bioelectronics track
- Current GPA: 87.43/100, *Supervisor:* Prof. Ningping Huang

Southeast University **Nanjing, China** **Aug. 2013 - June 2017**
- **B.E. in Biomedical Engineering,** Bioelectronics track
- GPA: 84.64/100, *Supervisor:* Prof. Ningping Huang

RESEARCH EXPERIENCE

Gradient Hydrogel **State Key Laboratory of Bioelectronics (SKLB), SEU** **Mar. 2019 - Present**
- **Research Assistant**
- Advisor: Prof. Ningping Huang
- Outline: To apply 3D bioprinting to form continuous gradient hydrogel scaffolds for inducing at least 2 types of cells ingrowth by layers

Sciatic Nerve Regeneration **SKLB, SEU** **Dec. 2018 - Present**
- **Research Assistant**
- Advisor: Prof. Ningping Huang, Dr. Xiaofeng Zhang
- Outline: Fabricated conductive nerve conduits with aligned PHBV/CNTs nanofiber film and keratin for rat's sciatic nerve defect (1cm) repair

3D Cardiac Tissue Construction **SKLB, SEU** **Aug. 2018 - Present**
- **Master's Thesis Project,** funded by National Science Foundation of China (NSFC) [No. 6507030165]
- Advisor: Prof. Ningping Huang
- Outline: Constructed 3D cardiac tissue models with biomimetic multi-layer anisotropic structure, based on layers of suspended aligned nanofiber films encapsulated by collagen hydrogel
  - — Designed an efficient electrospinning receiver for suspended nanofibers with >95% alignment
  - — Achieved high level of cardiomyocytes (CMs) alignment 1d after seeding: monolayer (>95%) and orthogonal double-layer (>90%); and sarcomere arrangement and CX43 expression
  - — Reached synchronized CMs contraction rate (90-100times/min) 2 days after seeding

Long Bone Defect Repair **SKLB; Laboratory Animal Center, SEU** **Aug. 2016 - June 2017**
- **Bachelor's Thesis Project; Research Assistant,** funded by Marie Curie International Incoming Fellowship Return Phase [No.913097]
- Advisor: Prof. Ningping Huang, Dr. Lanxin Lv
- Outline: Promoted almost 100% bone regeneration used newly designed 3D hybrid scaffolds after 12 weeks, in vivo; Assessed bone marrow infiltration and angiogenesis
  - — Assembled hybrid scaffolds by wrapping electrospinning nanofiber (200nm) mesh around anti-opal porous (400μm, >95% interconnectivity) scaffolds
  - — Operated on 30 rabbits (5 groups) to build 15mm radius defect and implant scaffolds
  - — Achieved 40% bone regeneration on 4 weeks, and >90% bone regeneration on 12 weeks, postoperative, tested by X-Ray, CT, SEM/EDS, H&E/IHC staining, mechanical tests

POCT stripes for Vascular Inflammation **Nanoeast Biotech Co., LTD** **Oct. 2016 - May 2017**
- **National College Innovation Project** [No.201610286067]; **SRTP Project,** SEU [No.16112020], **Team Member**
- Advisor: Prof. Yu Zhang.
- Outline: *Outstanding SRTP Project Award,* developed fluorescence immunochromatography strips co-testing Hcy and hs-CRP for early vascular inflammation diagnosis, based on Sandwich ELISA and Competition ELISA
  - — Devised Hcy detection method suitable for POCT product (catalytic synthesized Hcy into SAH)

— Fabricated hs-CRP POCT strip with a good linearity (R^2=0.9851) within target range (0.3-10mg/L), 3mins after sample addition

PUBLICATION

- **J. Y. Zhang,** N. P. Huang*. Biomimetic Construction of 3D Cardiac Tissue Based on Aligned Nanofibers/Hydrogel Composite Scaffolds. 3rd Workshop on Microfluidic Chips and Tissue Engineering, Nanjing, China (2019).
- **J. Y. Zhang,** L. X. Lv, X. F. Zhang, N. P. Huang*. Effect of Three-dimensional Porous Composite Scaffold Applied in Bone Defect Repair. 2nd Workshop on Microfluidic Chips and Tissue Engineering, Nanjing, China (2018).
- L. X. Lv, **J. Y. Zhang,** X. F. Zhang. N. P. Huang*. A Biomimetic 3D Scaffold for Long Bone Repair. 5th TERMIS World Congress, Kyoto, Japan (2018).

WORK EXPERIENCE

- **Research Assistant,** State Key Laboratory of Bioelectronics (SKLB), SEU (Aug. 2016 - Present)
- **Work Assistant,** Lab of Zhongdang Xiao, BME Department, SEU (Aug. 2017 - June 2018)
- **Library Assistant,** Sipailou Library, SEU (Sep. 2016 - June 2017)

TECHNICAL SKILLS

- **Research Interests:** Bionics, Biomaterials and Tissue Engineering, Regenerative Medicine
- **Professional:** Electrospinning, 3D Bioprinting, IF/IHC staining, Prepared animal models with bone defects, Isolation and cultivation of cardiomyocytes, Molecular biological techniques
- **Programming:** Python, C++
- **Software:** 3ds Max, Blender, ImageJ, Origin, Ae

AWARDS & HONORS

- *Top 10%* *Graduate Student Merit Awards,* Southeast University (2018)
- *Top 15%* *The Second Prize of Learning Scholarship,* SEU (2018, 2017)
- *Top 5%* *Outstanding SRTP Project Award,* SEU (2017)
- *Top 1%* *Course Award in Probability & Statistic,* SEU (2015)
- *Top 5%* *Advanced Individual of Cultural and Art Activities,* SEU (2014)

ADDITIONAL EXPERIENCE

- *Member,* Graduate Student League of Volunteer, SEU (2017 - Present)
- *Minister,* Culture and Entertainment Department of Student Union, School of BME, SEU (2014 - 2016)
- *1st Place,* the "*Sanrenxing*" Orienteering Competition, SEU (2017)
- *4th Place,* Cheerleading Competition, SEU (2014)
- *3rd Place,* English Dubbing Contest, SEU (2013)
- *Recognition Award,* Bowcraft and Fletching Contest, SEU (2013)
- *Hobbies:* Billiards, Boxing, Dance, Piano, Handcraft, Video Games, Sci-Fic

REFERENCE

Ningping Huang, Ph.D., Prof. **Nanjing, China**
- Professor, School of Biological Science and Medical Engineering, Southeast University
- *Email: nphuang@seu.edu.cn*

Lanxin Lv, Ph.D. **Xuzhou, China**
- Assistant Researcher, Department of First Aid and Relief Medical, Xuzhou Medical University
- *Email: lvlanxin1982@163.com*

Yu Zhang, Ph.D., Prof. **Nanjing, China**
- Professor, School of Biological Science and Medical Engineering, Southeast University
- *Email: zhangyu@seu.edu.cn*