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Professor

B.S. in Chemical Engineering
National Taiwan University, 2003
Ph.D. in Bioengineering
University of California, Berkeley and
University of California, San Francisco 2008

Research and Professional Interests
Tissue Engineering, Biomaterials,
Stem cells and Regenerative Medicine.

Journal Papers

1. Lin WH, **Yu J**, Chen G, Tsai WB. "Fabrication of multi-biofunctional gelatin-based electrospun fibrous scaffolds for enhancement of osteogenesis of mesenchymal stem cells." *Colloids and surfaces B: Biointerfaces* 138. 2015 Nov. (SCI)
2. Wu YL, Lin CW, Cheng NC, Yang KC, **Yu J***. "Modulation of keratin in adhesion, proliferation, adipogenic, and osteogenic differentiation of porcine adipose-derived stem cells." *J Biomed Mater Res B Appl Biomater*. 2015 Oct
3. Wang YP, Liao YT, Liu CH, **Yu J**, Chen JC, Wu KC "Fabrication of inorganic hydroxyapatite nanoparticles and organic biomolecules-dual encapsulated alginate microspheres." *Biointerphases*. 2015 Jun (SCI)
4. YK Wu and **J Yu***. "Role of Tissue Engineering in Cellular Therapies for Myocardial Infarction. A Review." *J. Mater. Chem. B*, 2015 (SCI)
5. **Yu J**, Wu YK, Gu Y, Fang Q, Sievers R, Ding CH, Olgin JE, Lee RJ. "Immuno-modification of enhancing stem cells targeting for myocardial repair." *J Cell Mol Med*. 2015 Jul (SCI)
6. **Yu J**, Lai TC, Tsai WB*. "Gelatin Methacrylate/Carboxybetaine Methacrylate Hydrogels with Tunable Crosslinking for Controlled Drug Release." *Journal of Materials Chemistry B*. 2016 March (SCI)
7. Huang TL, Wu CC, **Yu J**, Yang KC*. "L-Lysine regulates tumor necrosis factor-alpha and matrix metalloproteinase-3 expression in human osteoarthritic chondrocytes." *Process Biochemistry*. 2016 Apr (SCI)
8. Guan ZY, Wu CY, Wu JT, **Yu J**, Chen HY*. "Multifunctional and Continuous Gradients of Biointerfaces Based on Dual Reverse Click Reactions." *ACS Applied Materials & Interfaces*. 2016 May (SCI)
9. Chien HW, PH Cheng, Chen SY, **Yu J***, Tsai WB*. "Low-fouling and functional poly(carboxybetaine) coating via a photo-crosslinking process." *Biomaterials Science*. 2017 Jan 26 (SCI)
10. Chien HW, **Yu J***, Li ST, Chen HY, Tsai WB*. "An in situ poly(carboxybetaine) hydrogel for tissue engineering applications." *Biomaterials Science*. 2017 Jan 17 (SCI)
11. YP Wang, YT Liao, CH Liu, **J Yu**, HR Alamri, ZA Allothman, MSA Hossain, K CW Wu* "Trifunctional Fe₃O₄/CaP/Alginate Core-Shell-Corona Nanoparticles for

- Magnetically Guided, pH-Responsive, and Chemically Targeted Chemotherapy.” *ACS Biomaterials Science & Engineering* 3 (10), 2366-2374 4 2017 (SCI)
12. CY Tsai, CL Lin, NC Cheng, **J Yu***. “Effects of nano-grooved gelatin films on neural induction of human adipose-derived stem cells.” *RSC Advances* 7 (84), 53537-53544. 2017 (SCI)
 13. YL Wu, CW Lin, NC Cheng, KC Yang, **J Yu***. “Modulation of keratin in adhesion, proliferation, adipogenic, and osteogenic differentiation of porcine adipose-derived stem cells.” *Journal of Biomedical Materials Research Part B: Applied Biomaterials* 105 1 180-192 2017 (SCI)
 14. CW Kao, PH Cheng, PT Wu, SW Wang, IC Chen, NC Cheng, KC Yang, **J Yu***. *RSC Advances* 7 (81), 51343-51351 2 2017
 15. YH Lin, KW Huang, SY Chen, NC Cheng, **J Yu***. “Keratin/chitosan UV-crosslinked composites promote the osteogenic differentiation of human adipose derived stem cells.” *Journal of Materials Chemistry B* 5 (24), 4614-4622 4 2017 (SCI)
 16. CH Chen, CC Tsai, PT Wu, IK Wang, **J Yu***, WB Tsai*. “Modulation of Neural Differentiation through Submicron-grooved Topography Surface with modified Polydopamine.” *ACS Applied Bio Materials*. 2018 (SCI)
 17. CW Lin, YK Chen, M Lu, KL Lou*, **J Yu***. “Photo-Crosslinked Keratin/Chitosan Membranes as Potential Wound Dressing Materials.” *Polymers* 10 (9), 987, 2018 (SCI)
 18. **J Yu**, MY Wang, HC Tai, NC Cheng*. “Cell sheet composed of adipose-derived stem cells demonstrates enhanced skin wound healing with reduced scar formation.” *Acta biomaterialia* 77, 191-200, 2018 (SCI)
 19. WH Lin, CY Lin, CC Tsai, **J Yu***, WB Tsai*. “Spheroid Formation of Human Adipose-Derived Stem Cells on Environmentally Friendly BMA/SBMA/HEMA Copolymer-Coated Anti-Adhesive Surface.” *Bulletin of the Chemical Society of Japan* 91 (9), 1457-1464, 2018 (SCI)
 20. CW Kao, PT Wu, MY Liao, IJ Chung, KC Yang, WYI Tseng, **J Yu***. “Magnetic Nanoparticles Conjugated with Peptides Derived from Monocyte Chemoattractant Protein-1 as a Tool for Targeting Atherosclerosis.” *Pharmaceutics* 10 (2), 62 2 2018 (SCI)
 21. YW Tai, YC Chiu, PT Wu, **J Yu***, YC Chin, SP Wu, YC Chuang, HC Hsieh, MY Liao*. “Degradable NIR-PTT Nanoagents with a Potential Cu@Cu₂O@Polymer Structure.” *ACS applied materials & interfaces* 10 (6), 5161-5174 1 2018 (SCI)
 22. CW Lin, KC Yang, NC Cheng, WB Tsai, KL Lou*, **J Yu***. “Evaluation of adhesion, proliferation, and differentiation of human adipose-derived stem cells on keratin.” *Journal of Polymer Research* 25 (2), 40 2 2018 (SCI)
 23. ZY Guan, YK Chen, CY Wu, SC Wu, **J Yu***, HY Chen*. “Surface modification: activation and deactivation of osteogenic differentiation based on detachable growth factor protein.” *Journal of Materials Chemistry B* 6 (2), 236-240, 2018 (SCI)
 24. KH Wu, C Mei, CW Lin, KC Yang, **J Yu***. “The influence of bubble size on chondrogenic differentiation of adipose-derived stem cells in gelatin microbubble scaffolds.” *Journal of Materials Chemistry B* 6 (1), 125-132 2018 (SCI)

25. Tsai, NC, She JW, Wu JG, Hsiao YS*, **Yu J***. "Poly(3,4-ethylenedioxythiophene) Polymer Composite Bioelectrodes with Designed Chemical and Topographical Cues to Manipulate the Behavior of PC12 Neuronal Cells." *Advanced Materials Interfaces* January 2019 (SCI)
26. Mei C, Chao CW, Lin CW, Li ST, Wu KH, Yang KC, **Yu J***. "Three-dimensional Spherical Gelatin Bubble-based Scaffold Improves the Myotube Formation of H9c2 Myoblasts." *Biotechnology and bioengineering*. Jan 2019 (SCI)
27. Y Liu, SC NG, **J Yu***, WB Tsai*. "Modification and crosslinking of gelatin-based biomaterials as tissue adhesives." *Colloids and Surfaces B: Biointerfaces* 174, 316-323. (SCI)
28. PT Wu, CL Lin, CW Lin, NC Chang, WB Tsai*, **J Yu***. "Methylene-Blue-Encapsulated Liposomes as Photodynamic Therapy Nano Agents for Breast Cancer Cells." *Nanomaterials* 9 (1), 14 (SCI)
29. CC Tsai, YJ Hong, RJ Lee, NC Cheng, **J Yu***. "Enhancement of human adipose-derived stem cell spheroid differentiation in an in situ enzyme-crosslinked gelatin hydrogel." *Journal of Materials Chemistry B*. 2019 (SCI)
30. C Mei, CW Chao, CW Lin, KC Yang, **J Yu***. "Three-dimensional Spherical Gelatin Bubble-based Scaffold Improves the Myotube Formation of H9c2 Myoblasts." *Biotechnology and Bioengineering* 116(5) 2019
31. NC Tsai, JW She, JG Wu, P Chen, YS Hsiao*, **J Yu***. "Poly(3,4-ethylenedioxythiophene) Polymer Composite Bioelectrodes with Designed Chemical and Topographical Cues to Manipulate the Behavior of PC12 Neuronal Cells." *Advanced Materials Interfaces* 6(5) 2019
32. CW Lin, YK Che, KC Tang, KC Yang, NC Cheng, **J Yu***. "Keratin Scaffolds with Human Adipose Stem Cells: Physical and Biological Effects toward Wound Healing." *Journal of Tissue Engineering and Regenerative Medicine* 13 (6) 2019
33. YT Hsu, CY Wu, ZY Guan, HY Sun, C Mei, WC Chen, NC Cheng, HY Chen*, **J Yu***. "Characterization of Mechanical Stability and Immunological Compatibility for Functionalized Modification Interfaces." *Scientific Reports* 9(1) 2019

Book Chapters

1. **Yu J**, Cheng CM, Lee RJ. "Biomaterials and Stem Cells for Myocardial Repair". Chapter 16 in "Biomaterials and Stem Cells in Regenerative Medicine". Taylor and Francis Group. 2011.
2. Wu YL and **Yu J***. "Handbook of Intelligent Scaffolds for Regenerative Medicine, 2nd Edition" to be published in hardcover and eBook by Pan Stanford Publishing (March 2015)
3. Lu M, **Yu J***. "Mussel-Inspired Biomaterials for Cell and Tissue Engineering" Novel Biomaterials for Regenerative Medicine, 451-474 (Springer 2018)

Conference Papers

1. **Yu J**, “3D Zwitterionic Porous Hydrogel for Vascular Engineering”. 7th World Congress on Preventive and Regenerative Medicine (WCPRM). Taiwan, R.O.C. 2015.
2. **Yu J**, “Keratin Biomaterials for Cell Adhesion and Adipose-derived Stem Cells Differentiation”. The 5th Asian Biomaterials Congress (ABMC5). Taiwan, R.O.C. 2015.
3. **Yu J**, “pSBMA Hydrogels Incorporated with RGD/QK peptides on the human Adipose-derived Stem Cells Proliferation and Differentiation”. ISSCR (International Society of Stem Cell Research) 2015 Annual Meeting. Stockholm, Sweden.
4. **Yu J**, “Fabrication of peptide-modified zwitterionic porous hydrogels for vascular engineering” 2015 7th WACBE World Congress on Bioengineering, Singapore.
5. 10th World Congress of Biomaterials. May 2016, Montreal, Canada
6. ICBS 2016, 3rd International Conference on Biomaterials Science in Tokyo. Invited speaker. Nov 28-30 2016
7. The 2nd International Symposium on Biointerface Science and Engineering Sep.21-22 2016. Conference Secretary and Program Committee.
8. 2016 Biomedical Molecular Imaging & 6th Molecular Imaging Center Symposium of National Taiwan University. Conference Secretary and Organization Committee Nov.11-13 2016
9. 2017 ISOMRM International Symposium of Materials on Regenerative Medicine Scientific Program Committee. Tao-Yuan, Taiwan, 23-26 August
10. Asia Pacific Society for Materials Research Annual Meeting. Hokkaido, Japan. July 27-30.2017.
11. 97th Annual Meeting of the Chemical Society of Japan. Young Investigator Lectureship Award. Mar 18 2017.
12. Asian University Symposium on Biomedical Engineering. Keynote Speaker, July 5-7, 2018, Kyung Hee University, Korea
13. 4th International Conference on Biomedical Polymers and Polymeric Biomaterials Keynote Speaker 2018/7/15-18 Polish Society of Biomaterials
14. International Polymer Conferences (IPC)2018 Keynote Speaker, 2018/12/4-7, The Society of Polymer Science, Japan (SPSJ)
15. Nano-Micro Conference 2018 Invited Speaker, 2018/12/17-20
16. 2019 International Advanced Drug Delivery Symposium & Annual Meeting of Biomaterials and Controlled Releases Society. 2019/3/28-29
17. 2019 海峽兩岸生醫研討會議, 南京 · 中國 · 2019/4/19-21
18. European Materials Research Society (EMRS) Spring Meeting 2019, Nice, France, 2019/5/27-5/31
19. Asian BioCeramic Symposium 2019, Keynote Speaker, 2019/12/8-10
20. 2nd GLowing Polymer in KANTO, Invited Speaker, Japan, 2019/11/30

Editorial Board Service

1. Physics and Chemistry of Stem Cells (Walter de Gruyter, German)
2. Am J Tissue Eng & Stem Cell (Columbia International Publishing, USA)
3. ACS Acta Cardiologica Sinica, Associate Editor (The Taiwan Society of Cardiology (TSOC))

Honors and Others

1. 指導碩士生李承德同學 2015 第五屆亞洲生醫材料學術研討會(ABMC5) 英文壁報發表 優選
2. 指導碩士生蔡鎮宇同學 2015 生物醫學工程科技研討會-學生壁報發表競賽 優等
3. 指導 吳冠翰同學，榮獲 2016 生物醫學工程科技研討會學生論文競賽生醫材料暨生物力學組-第二名，2016
4. 指導 李承德同學，榮獲 2016 生物醫學工程科技研討會學生論文競賽生醫材料暨生物力學組-第二名，2016
5. 指導 陳劭雍同學，榮獲美國國際化工年會學生組海報比賽獲得第一名，2016
6. 指導 李承德同學，榮獲「第 63 屆台灣化學工程學會年會」學生英文報告競賽佳作，2016
7. 指導 林詠皓同學，榮獲「第 63 屆台灣化學工程學會年會」學生英文報告競賽佳作，2016
8. 指導 蔡景丞同學，榮獲「第 63 屆台灣化學工程學會年會」壁報論文競賽佳作，2016
9. 2017 台灣化學工程學會 64 周年年會暨科技部化工學門成果發表會 壁報論文競賽 唐誥羣同學 優勝
10. 林詠皓同學 陳劭雍同學 黃楷文同學獲得 2017 台大化工第一屆學士專題競賽 銀獎與佳作
11. 吳柏霆同學 獲得 2017 聰賢芬英創新程序設計獎 佳作
12. 指導 吳柏霆同學 2018 台灣化學工程學會 65 周年年會暨科技部化工學門成果發表會 英文報告優勝。洪語均同學 壁報佳作
13. GCBME 2018 (Global Conference on Biomedical Engineering) 會議主辦機關: Chung

Yuan Christian University 余佳韋同學 第二名。吳柏靈同學 優勝

14. 指導 盧廷瑜同學 2019 台灣化學工程學會 66 周年年會暨科技部化工學門成果發表會 壁報論文優勝。郭碩修同學 壁報佳作
15. 指導 廖弈翔同學 2019 台灣化學工程學會 66 周年年會暨科技部化工學門成果發表會 英文報告優勝。

