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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. 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)
2. 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)
3. YP Wang, YT Liao, CH Liu, **J Yu**, HR Alamri, ZA Allothman, MSA Hossain, K CW Wu\* "Trifunctional Fe<sub>3</sub>O<sub>4</sub>/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)
4. 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)
5. 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)
6. CW Kao, PH Cheng, PT Wu, SW Wang, IC Chen, NC Cheng, KC Yang, **J Yu\***. *RSC Advances* 7 (81), 51343-51351 2 2017
7. 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)
8. 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)
9. 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)
10. **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)

11. 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)
12. 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)
13. 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@Cu<sub>2</sub>O@Polymer Structure." *ACS applied materials & interfaces* 10 (6), 5161-5174 1 2018 (SCI)
14. 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)
15. 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)
16. 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)
17. 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)
18. 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)
19. 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)
20. 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)
21. 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)
22. 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
23. 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

24. 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
25. 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
26. YK Wu, YK Tu, J Yu, NC Cheng\* (2020, Jan). The Influence of Cell Culture Density on the Cytotoxicity of Adipose-Derived Stem Cells. Scientific Report
27. T Ogasawara, C Ko, J Yu (2020, Apr). Application of Stem Cells in the Oral and Maxillofacial Region. *Stem Cells International*. 本人為通訊作者.
28. CC Tsai, SH Kuo, TY Lu, NC Cheng, MY Shie, J Yu\* (2020, Jul). Enzyme-Cross-linked Gelatin Hydrogel Enriched with an Articular Cartilage Extracellular Matrix and Human Adipose-Derived Stem Cells for Hyaline Cartilage Regeneration of Rabbits. *ACS Biomaterials Science & Engineering*, 6 (9), 5110-5119. 本人為通訊作者.
29. CW Lin, ZY Guan, M Lu, TY Wu, NC Cheng, HY Chen\*, J Yu\* (2020, Aug). Synergistically Enhanced Wound Healing of a Vapor-Constructed Porous Scaffold. *ACS Applied Bio Materials*, 3 (9), 5678-5686. 本人為通訊作者.
30. TY Lu, WC Huang, Y Chen, N Baskaran, J Yu\*, Yang Wei\* (2020, Nov). Effect of varied hair protein fractions on the gel properties of keratin/chitosan hydrogels for the use in tissue engineering. *Colloids and Surfaces B: Biointerfaces*, 195, 111258. 本人為通訊作者.
31. TY Lu, KF Yu, SH Kuo, NC Cheng, \*EY Chuang\* and J Yu\* (2020, Dec). Enzyme-Crosslinked Gelatin Hydrogel with Adipose-Derived Stem Cell Spheroid Facilitating Wound Repair in the Murine Burn Model. *Polymers*. 本人為通訊作者.
32. SH Kuo, PT Wu, JY Huang, CP Chiu, J Yu \*, MY Liao \* (2020, Dec). Fabrication of Anisotropic Cu Ferrite-Polymer Core-Shell Nanoparticles for Photodynamic Ablation of Cervical Cancer Cells. *Nanomaterials*. 本人為通訊作者.
33. YS Hsiao, CL Lin, IH Liao, FJung Chen, CT Liu, HS Tseng, J Yu\* (2021, Jan). Facile Fabrication of Microwrinkled Poly (3, 4-Ethylenedioxythiophene) Films that Promote Neural Differentiation under Electrical Stimulation. *ACS Applied Bio Materials*. 本人為通訊作者.
34. TY Lu, CY Chiang, YJ Fan, PR Jheng, ED Quiñones, KT Liu, SH Kuo, HY Hsieh, CL Tseng, J Yu\*, EY Chuang\* (2021, Jan). Dual-Targeting Glycol Chitosan/Heparin-Decorated Polypyrrole Nanoparticle for Augmented Photothermal Thrombolytic Therapy. *ACS Applied Materials & Interfaces*. 本人為通訊作者.
35. YC Yang, YT Lin, J Yu, HT Chang, TY Lu, TY Huang, A Preet, YJ Hsu, L Wang, and TE Lin\* (2021, Jul). MXene Nanosheet-Based Microneedles for Monitoring Muscle Contraction and Electrostimulation Treatment. *ACS Appl. Nano Mater.* .
36. TY Lu, WF Lu, YH Wang, MY Liao, Y Wei, Yu-Jui Fan, Er-Yuan Chuang\*, Jiasheng Yu\* (2021, Aug). Keratin-Based Nanoparticles with Tumor-Targeting and Cascade

- Catalytic Capabilities for the Combinational Oxidation Phototherapy of Breast Cancer. *ACS Applied Materials & Interfaces*. 本人為通訊作者.
37. FJ Chen, YS Hsiao\*, IH Liao, CT Liu, PoI Wu, CY Lin, NC Cheng, J Yu\* (2021, Aug). Rational design of a highly porous electronic scaffold with concurrent enhancement in cell behaviors and differentiation under electrical stimulation. *Journal of Materials Chemistry B*. 本人為通訊作者.
  38. WF Lu, TY Lu, YCh Liu, TH Liu, CC Feng, CW Lin, KC Yang\*, Y Wei\*, J Yu\* (2021, Nov). Keratin-Associated Protein Nanoparticles as Hemostatic Agents. *ACS Appl. Nano Mater.*. 本人為通訊作者.
  39. TY Wu, CY Wu, J Christy, YC Chiang\*, ZY Guan, J Yu, HY Chen\* (2021, Nov). Vapor-Phase Fabrication of Cell-Accommodated Scaffolds with Multicomponent Functionalization for Neuronal Applications. *Advanced Materials Interfaces*.
  40. ED Quiñones, TY Lu, KT Liu, YJ Fan, EY Chuang\*, J Yu\* (2022, Jan). Glycol chitosan/iron oxide/polypyrrole nanoclusters for precise chemodynamic/photothermal synergistic therapy. *International Journal of Biological Macromolecules* 本人為通訊作者
  41. CC Feng, WF Lu, YC Liu, TH Liu, YC Chen, HW Chien, Y Wei, HW Chang, J Yu\* (2022, May) A hemostatic keratin/alginate hydrogel scaffold with methylene blue mediated antimicrobial photodynamic therapy. *Journal of Materials Chemistry B* 本人為通訊作者
  42. LX Yang, YC Liu, CH Cho, YR Chen, YL Lu, Z Zhang, YT Tsai, YC Chin, J Yu, HMPan, WR Jiang, ZC Chia, WS Huang, YL Chiu, CK Sun, YT Huang, LM Chen, KT Wong, CH Chen, YJ Chang, CCHuang, TM Liu\* (March, 2022). A universal strategy for the fabrication of single-photon and multiphoton NIR chromophore nanoparticles by loading organic dyes into water-soluble polymer nanosponges *Journal of Nanobiotechnology*
  43. KF Yu, TY Lu, YCE Li, KC Teng, YC Chen, Y Wei, TE Lin, NC Cheng, J Yu\* (2022) Design and Synthesis of Stem Cell-Laden Keratin/Glycol Chitosan Methacrylate Bioinks for 3D Bioprinting. *Biomacromolecules*. 本人為通訊作者
  44. TT Nguyen, CC Hu, R Sakthivel, SC Nabilla, YW Huang, J Yu, NC Cheng. (2022) Preparation of gamma poly-glutamic acid/hydroxyapatite/collagen composite as the 3D-printing scaffold for bone tissue engineering. *Biomaterials Research*
  45. CK Sun, YH Wang, YL Chen, TY Lu, HY Chen, SC Pan, PC Chen, ... Fabrication of an Au-doped Cu/Fe oxide-polymer core-shell nanoreactor with chemodynamic and photodynamic dual effects as potential cancer therapeutic agents. *Scientific Reports* 本人為通訊作者
  46. DY Cheng, IH Liao, J Yu, YC Liao (Dec.2022) Highly compressible hydrogel reinforced with cellulose nanocrystals for ultrasound scanning via microwave-assisted synthesis. *Cellulose* 本人為通訊作者
  47. J Yu, YC Hsu, JK Lee, NC Cheng. (2022) Enhanced angiogenic potential of adipose-derived stem cell sheets by integration with cell spheroids of the same source.

*Stem Cell Research & Therapy* 本人為第一作者

48. CW Lin, PT Wu, EY Chuang, YJ Fan, J Yu. (Dec 2022) Design and Investigation of an Eco-Friendly Wound Dressing Composed of Green Bioresources-Soy Protein, Tapioca Starch, and Gellan Gum. *Macromolecular Bioscience* 本人為通訊作者

### 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. 2017 ISOMRM International Symposium of Materials on Regenerative Medicine Scientific Program Committee. Tao-Yuan, Taiwan, 23-26 August
2. Asia Pacific Society for Materials Research Annual Meeting. Hokkaido, Japan. July 27-30. 2017.
3. 97th Annual Meeting of the Chemical Society of Japan. Young Investigator Lectureship Award. Mar 18 2017.
4. Asian University Symposium on Biomedical Engineering. Keynote Speaker, July 5-7, 2018, Kyung Hee University, Korea
5. 4th International Conference on Biomedical Polymers and Polymeric Biomaterials Keynote Speaker 2018/7/15-18 Polish Society of Biomaterials
6. International Polymer Conferences (IPC) 2018 Keynote Speaker, 2018/12/4-7, The Society of Polymer Science, Japan (SPSJ)
7. Nano-Micro Conference 2018 Invited Speaker, 2018/12/17-20
8. 2019 International Advanced Drug Delivery Symposium & Annual Meeting of Biomaterials and Controlled Releases Society. 2019/3/28-29
9. 2019 海峽兩岸生醫研討會議, 南京·中國·2019/4/19-21
10. European Materials Research Society (EMRS) Spring Meeting 2019, Nice, France, 2019/5/27-5/31
11. Asian BioCeramic Symposium 2019, Keynote Speaker, 2019/12/8-10
12. 2nd GLOWing Polymer in KANTO, Invited Speaker, Japan, 2019/11/30

13. 第五屆台灣國際再生醫學材料應用國際研討會，成功大學 Invited Speaker 2020/12/12-14
14. 2021 Symposium of Korean Society for Biotechnology and Bioengineering (KSBB) Invited Speaker, 202/10/8-9
15. Materials Oceania 2021 Brisbane, Invited Speaker 2021/10/14-15
16. IEEE-NANOMED, Invited Speaker 2021/11/11
17. 第六屆台灣國際再生醫學材料應用國際研討會，Annual Meeting of Biomaterials and Controlled Releases Society in Taiwan，清華大學 Invited Speaker 2022/9/2
18. 2022 臺灣奈米生醫學會年會暨國際研討會 (TNS2022) Invited Speaker 2022/7/22  
新竹

### 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. 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
2. 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
3. 吳柏霆同學 獲得 2017 聰賢芬英創新程序設計獎 佳作
4. 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
5. 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。吳柏霆同學 優勝
6. 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
7. 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。

8. 盧廷瑜同學，「2020 中華民國生醫材料及藥物製劑學會年會」壁報發表優勝。
9. 盧廷瑜同學，「台灣化學工程學會 67 周年年會暨科技部化學工程學門成果發表會」壁報發表優勝。盧韋帆、劉冠霆同學，榮獲壁報發表佳作。2020
10. 王英旭同學 「臺灣奈米生醫學會年會暨國際研討會」 優勝 2021
11. 盧韋帆同學，「2020 Biomedical Molecular Imaging & 10th Molecular Imaging Center Symposium」壁報發表優勝
12. 2021 綠點子國際發明競賽金牌獎
13. 未來科技展(2021) 2021 未來科技獎入圍技術
14. 2021 十二屆 IIC 國際創新發明競賽 金牌
15. 2021 第一屆醫療植入物商業轉譯競賽 最佳潛力獎
16. 劉冠霆同學 台灣化學工程學會 68 週年年會 暨科技部化學工程學門成果發表會/ 前瞻分子工程研討會 學生英文報告競賽 優勝, 2022
17. 劉泰宏、馮鏡智同學 台灣大學化工系 2021 學士專題論文競賽 佳作
18. 林妤庭、籃冠宇、鄭羽書、劉冠霆等四位同學(指導教授游佳欣教授)·以【The Novel Starch/Alginate Scaffold for Fashion Clean Meat】主題榮獲第十三屆 IIC 國際創新發明競賽金獎
19. 劉冠霆同學 69 屆化工年會學生英文口頭論文發表競賽 佳作
20. 劉冠霆同學 111 學年化工產品開發競賽 金獎
21. 林妤庭、籃冠宇同學 111 學年度學士專題海報競賽 銅獎
22. 林旻萱同學, 2022 年中華民國界面科學學會年會 壁報佳作
23. 劉倚辰與鄧廣志同學 2022 「中華民國生醫材料及藥物製劑學會」學生壁報論文競賽: 特優與佳作
24. 2022 十三屆 IIC 國際創新發明競賽 金牌
25. 2022 台灣大學工學院 學術勵進獎 · 志聖傑出學者
26. 年度績優教師，台灣大學 (2022)