

The Chinese University of Hong Kong
Shun Hing Institute of Advanced Engineering
List of Publications Arising from SHIAE Supported Projects
(Batch 2015)

Project code	Publication
BME-p2-15 Prof. Zheng LI (BME and Institute of Digestive Disease) (8115049)	J[1] S. Song, Z. Li , Q.H. Meng, H.Y. Yu and H.L. Ren, “Real-time shape estimation for wire-driven flexible robots with multiple bending sections based on quadratic Bezier curves”, IEEE Sensors Journal, Vol. 15, No. 11, pp. 6326-6334, Nov. 2015
	J[2] Z. Li , H.L. Ren, W.Y. Chiu, R.X. Du and H.Y. Yu, “A novel constrained wire-driven flexible mechanism and its kinematic analysis”, Mechanism and Machine Theory, Vol. 95, pp. 59-75, 2016
	J[3] Z. Li , M.Z. Oo, V. Nalam, et. al, “Design of a Novel Flexible Endoscope - Cardioscope”, Journal of Mechanisms and Robotics, Vol. 8, pp. 051014 1-9, 2016
	J[4] Z. Li and S.H. Ng, “Future of uniportal video-assisted thoracoscopic surgery – emerging technology”, Annals of Cardiothoracic Surgery, Vol. 5, No. 2, pp. 127-132, 2016
	J[5] Z. Li , L. Wu, H.L. Ren and H.Y. Yu, “Kinematic comparison of surgical tendon-driven manipulators and concentric tube manipulators”, Mechanism and Machine Theory, No. 107, pp. 148-165, 2017
	J[6] H. Yuan, W.Y. Chiu and Z. Li , “Shape-reconstruction-based force sensing method for continuum surgical robots with large deformation”, IEEE Robotics and Automation Letters, Vol. 2, No. 4, pp. 1972 – 1979, Oct. 2017
	J[7] H. Yuan and Z. Li , “Workspace analysis of cable-driven continuum manipulators based on static model”, Robotics and Computer-Integrated Manufacturing, No. 49, pp. 240-252, 2018
	C[1] Z. Li , H.Y. Yu, H.L. Ren, W.Y. Chiu and R.X. Du , “A novel constrained tendon-driven serpentine manipulator”, Intelligent Robots and Systems (IROS), 2015 IEEE/RSJ International Conference on, Hamburg, Germany, pp. 5966-5971, 28 Sept. -2 Oct. 2015
	C[2] Z. Li , C.Z. Song and H.M. Wang , “Design and prototyping of a concentric wire-driven manipulator”, Biomedical Robotics and Biomechanics (BioRob), 6 th IEEE RAS/EMBS International Conference on, UTown, Singapore, pp. 213, Jun. 26-29, 2016
	C[3] Z. Li , W.Y. Chiu and R.X. Du , “Design and kinematic modeling of a concentric wire-driven mechanism targeted for minimally invasive surgery”, Intelligent Robots and Systems (IROS), 2016 IEEE/RSJ International Conference on, Daejeon, Korea, pp. 310-316, Oct. 9-14, 2016
C[4] H. Yuan, Z. Li , H.M. Wang and C.Z. Song, “Static modeling and analysis of continuum surgical robots”, Robotics and Biomimetics (Robio), 2016 IEEE International Conference on, Qingdao, China, pp. 265-270, Dec. 3-7, 2016	
BME-p3-15 Prof BIAN Liming (MAE-CUHK) (8115050)	J[1] +Feng, Q.; +Wei, K.; Lin, S.; Xu, Z.; Sun, Y.; Shi, P.; Li, G.; *Bian, L. Mechanically resilient, injectable, and bioadhesive supramolecular gelatin hydrogels crosslinked by weak host-guest interactions assist cell infiltration and in situ tissue regeneration. Biomaterials, 2016 Sept, 101: 217-28.
	J[2] Wei, K.; Zhu, M.; Su, Y.; Xu, J.; Feng, Q.; Lin, S.; Wu, T.; Xu, J.; Tian, F.; Xia, J.; Li, G.; *Bian, L. Robust biopolymeric supramolecular “Host-Guest Macromer” hydrogels reinforced by in situ formed multivalent nanoclusters for cartilage regeneration. Macromolecules, 2016 Jan, 49 (3), pp 866–875.

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BME-p3-15 Prof BIAN Liming (MAE-CUHK) (8115050)	J[3] +Xu, Y.; +Wei, K.; Zhao, P.; Feng, Q.; Choi, C.K. ; *Bian, L. Preserving the adhesion of catechol-conjugated hydrogels by thiourea-quinone coupling. <i>Biomaterials Science</i> , 2016, 4, 1726-1730.
	J[4] Huang, H.; Xu, J.; Wei, K.; Xu, Y.; Choi, C. K.; *Bian, L. Bioactive nanocomposite poly (ethylene glycol) hydrogels crosslinked by multifunctional layered double hydroxides nano-crosslinkers. <i>Macromolecular Bioscience</i> , 2016; 16 (7): 1019-26.
	J[5] +Feng, Q.; +Lin, S.; Zhang, K.; Dong, C., Sun, Y.; Huang, H.; Yan, X.; Zhang, L.; Li, G.; *Bian, L. Sulfated hyaluronic acid hydrogels with retarded degradation and enhanced growth factor retention promote hMSC chondrogenesis and articular cartilage integrity with reduced hypertrophy. <i>Acta Biomaterialia</i> , 2017 Feb.
	J[6] Zhang, K.; Feng, Q.; Xu, J.; Xu, X.; Yeung, K.W.K.; *Bian, L. Self-assembled injectable nanocomposite hydrogels stabilized by bisphosphonate-magnesium (Mg ²⁺) coordination regulates the differentiation of encapsulated stem cells via dual crosslinking. <i>Advanced Functional Materials</i> . 2017,
	P[1] Filed US Non-provisional patent: A bioadhesive and injectable hydrogel. Inventors: Feng, Q.; Wei, K.; Lin, S.; Li, G.; Bian, L.
	P[2] Filed US Non-provisional patent: A fast, pH-independent, and efficient conjugation method. Inventors: Xu, Y.; Wei, K.; Bian, L.
	P[3] Filed US provisional patent: Injectable hydrogels that promote mineralization and afford sustained release of bioactive ions. Inventors: Zhang, K.; Bian, L.
BME-p5-15 Prof Xiankai SUN (EE-CUHK) (8115051)	J[1] Jingwen Ma, Xiang Xi, Zejie Yu, and Xiankai Sun, "Hybrid graphene/silicon integrated optical isolators with photonic spin-orbit interaction," <i>Applied Physics Letters</i> 108 (15): 151103, Apr. 2016. [Featured as cover article and selected as Editor's Pick] [Selected as one of the world's 30 most clearly communicated breakthroughs in optics in 2016]
	J[2] Wen Zhou, Zejie Yu, Jingwen Ma, Bingqing Zhu, Hon Ki Tsang, and Xiankai Sun, "Ultraviolet optomechanical crystal cavities with ultrasmall modal mass and high optomechanical coupling rate," <i>Scientific Reports</i> 6: 37134, Nov. 2016.
	J[3] Jiahua Gu, Xiang Xi, Jingwen Ma, Zejie Yu, and Xiankai Sun, "Parity-time-symmetric circular Bragg lasers: a proposal and analysis," <i>Scientific Reports</i> 6: 37688, Nov. 2016.
	C[1] Jingwen Ma, Xiang Xi, Zejie Yu, and Xiankai Sun, "Spin-orbit interaction of light in photonic nanowaveguides: a proposal of graphene-based optical isolators," <i>PIERS 2016 in Shanghai</i> , The Electromagnetics Academy, Shanghai, China, Aug. 2016.
	C[2] Jingwen Ma, Xiang Xi, Zejie Yu, and Xiankai Sun, "Hybrid graphene/silicon integrated optical isolators with photonic spin-orbit interaction," <i>IEEE Photonics Conference 2016</i> , IEEE, Waikoloa, HI, USA, Oct. 2016.
RNE-p2-15 Prof Wei REN	J[1] Z. Wang, Z. Li, and W. Ren, "Quartz-enhanced photoacoustic detection of ethylene using a 10.5 μm quantum cascade laser," <i>Optics Express</i> , OSA Publishing, USA, 24 (pp. 4143-4154), 2016.

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(MAE-CUHK) (CSE-CUHK) (8115052)	J[2] Q. Wang, Z. Wang, and W. Ren, “Theoretical and experimental investigation of fiber-ring laser intracavity photoacoustic spectroscopy (FLI-PAS) for acetylene detection”, <i>Journal of Lightwave Technology</i> , DOI: 10.1109/JLT.2017.2748137 (2017).
	J[3] H. Ning, J. Wu, L. Ma, W. Ren*, D. F. Davidson, and R. K. Hanson, “Chemical kinetic modeling and shock tube study of methyl propanoate decomposition”, <i>Combustion and Flame</i> , ELSEVIER, 184 (pp. 30-40), 2017.
	C[1] W. Ren, D. F. Davidson and R. K. Hanson, “Methyl butanoate thermal decomposition: an improved shock tube study,” <i>the 10th Asia-Pacific Conference on Combustion</i> , the Combustion Institute, Beijing, China, 2015.
	C[2] W. Ren, “Experimental and modeling study of methyl butanoate in a shock tube,” <i>the 1st National Combustion Chemistry Meeting</i> , Chinese Chemistry Society, Chengdu, China, 2015.
	C[3] L. Ma, H. Ning, J. Wu, and W. Ren, “Exploration of temperature/H ₂ O nonuniformity in a premixed laminar flame using tunable laser absorption spectroscopy”, <i>the 2016 International Conference in Aerospace for Young Scientists</i> , Beijing, China, 2016. (Best paper award)
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