

## **Representative Publications**

### **Book Chapters**

- Wang Q and Zheng YP. Ultrasound measurement of swelling behaviors of articular cartilage in situ. *Biomechanical Systems Technology: Computational Methods*. Ed. Leondes CT. World Scientific. 271-295. 2007
- Zheng YP, Wang Q. Ultrasonic Characterization of Dynamic Depth-Dependent Biomechanical Properties of Articular Cartilage. In *Advanced Bioimaging Technologies in Assessment of Quality of Bone and Scaffold Materials*. Eds Qin L et al. 657-671. Springer. 2007
- Sum KW, Zheng YP, and Mak AFT. Vital sign monitoring for elderly at home: development of a compound sensor for pulse rate and motion. *Health Technology and Informatics Book Series: Personalized Health: The Integration of Innovative Sensing, Textile, Information and Communication Technologies*. Editors: Nugent CD, et al. Vol. 117: 43-50. ISBN: 1-58603-565-7.
- Lu MH, Zheng YP, and Huang QH. Ultrasound elastomicroscopy using water beam indentation: preliminary study. In: *State of the Art: Ultrasonics in Medicine (International Congress Series 1274)*, Elsevier, ISBN 0-444-51640-9. p87-96, 2004

### **Journal Papers Accepted or In Print**

- Lu MH, Zheng YP, Yu W, Huang QH, Huang YP. A hand-held indentation system for the assessment of mechanical properties of soft tissues in vivo. *IEEE Transactions on Instrumentation and Measurement*. Accepted. May 2008
- Xie HB, Zheng YP, Guo JY, Chen X, Shi J. Estimation of wrist angle from sonomyography using support vector machine and artificial neural network models. *Medical Engineering and Physics*. Accepted. May 2008
- Wang Q, Zheng YP, Qin L, Huang QH, Lam WL, Leung G, Guo X, Lu HB. Ultrasonic assessment of progressive proteoglycan depletion of articular cartilage in real-time. *Ultrasound in Medicine and Biology*. Accepted. Nov 2007
- Zhou YJ and Zheng YP. Revoiting Hough Transform (RVHT) and its application for muscle fiber orientation estimation in ultrasound images. *Ultrasound in Medicine and Biology*. Accepted. Nov 2007.

### **2008**

- Huang QH, Zheng YP. Volume reconstruction of freehand three-dimensional ultrasound using median filters. *Ultrasonics*. 48: 182-192, 2008
- Yuan QY, Huang J, Zhu ZW, Zheng YP, et al. Catheter-based intramyocardial injection of naked DNA encoding EGFP and intracardiac irradiation to enhance gene expression by an ultrasound catheter in dogs. *International Journal of Cardiology*. 125: S55-S56. Suppl. 1. 2008
- Wang Q, Zheng YP, Leung G, Lam WL, Guo X, Lu HB, Qin L, Mak AFT. Altered osmotic swelling behavior of proteoglycan-depleted bovine articular cartilage using high frequency ultrasound. *Physics in Medicine and Biology*. 53: 2537-2552, 2008
- Guo JY, Zheng YP, Huang QH, Chen X. Dynamic monitoring of forearm muscles using one-dimensional sonomyography (SMG) System. *Journal of Rehabilitation Research and Development*. 45: 187-196. 2008
- Shi J, Zheng YP, Huang QH, and Chen X. Relationships among continuous sonomyography, electromyography and torque generated by normal upper arm muscles during isometric contraction. *IEEE Transactions on Biomedical Engineering*. 55: 1191-1198, 2008

## 2007

- Saarakkala S, Jurvelin JS, Zheng YP, Nieminen HJ, Heikki J, Toyras J. Quantitative information from ultrasound evaluation of articular cartilage should be interpreted with care (letter). *Arthroscopy- The journal of Arthroscopic and Related Surgery*. 23: 1127-1128, 2007
- Huang QH, Zheng YP, Chen X, Shi J, He JF. Development of a Frame-Synchronized System for Continuous Acquisition and Analysis of Sonomyography, Surface EMG and Corresponding Joint Angle. *The Open Biomedical Engineering Journal*. 1:77-84, 2007
- Ling HY, Zheng YP, and Patil SG. Study on strain dependence of ultrasound speed in bovine articular cartilage under compression in vitro. *Ultrasound in Medicine and Biology*. 33 (10): 1599-1608, 2007
- Ling HY, Choi PC, Zheng YP, and Lau KT. Extracting the mechanical properties of soft tissues using ultrasound indentation associated with genetic algorithm. *Journal of Material Science: Materials in Medicine*. 18 (8): 1579-1586, 2007
- Huang YP, Zheng YP, Leung SF, and Choi APC. High frequency ultrasound assessment of skin fibrosis: Clinical results. *Ultrasound in Medicine and Biology*. 22: 1191-1198, 2007
- Wang Q, Zheng YP, Niu HJ, Mak AFT. Extraction of mechanical properties of articular cartilage from osmotic swelling behavior monitored using high frequency ultrasound. *ASME Transactions Journal of Biomechanical Engineering*. 129: 413-422, 2007
- Ling HY, Choi PC, Zheng YP, Lau KT. Study on the mechanical properties of tissue-mimicking phantom composites using ultrasound indentation. *Key Engineering Materials*. 334-335: 133-136, 2007
- Shi J, Zheng YP, Chen X, and Huang QH. Measurement of muscle fatigue with sonomyography: Dimensional change of muscles detected from ultrasound images. *Medical Engineering and Physics*. 29: 472-479, 2007
- Lu MH, Zheng YP, and Huang QH. A novel method to obtain modulus image of soft tissues using ultrasound water jet indentation. *IEEE Transactions on Biomedical Engineering*. 54: 114-121, 2007
- Huang YP, Zheng YP, Leung SF, and Mak AFT. Reliability of measurement of skin ultrasound properties in vivo: a potential technique for assessing irradiated skin. *Skin Research and Technology*. 13: 55-61. 2007
- Guo X, Zheng YP, Lam WL. Ultrasound machine assists decalcification. *Calcified Tissue International*. 2007; 80, S52
- Deng HS, Huang J, Zheng YP, Deng CM, Liu DC, L JS, Wang ZG. Intervention ultrasound indentation assessment of myocardial stiffness: in vivo experimental. *Chinese Journal of Ultrasound in Medicine (in Chinese)*. 2007; 23: 164-166
- Li JS, Huang J, Zhang XC, Zheng YP, Deng CM, Liu DC, Deng HS, Yuan QY, Jiang YH, Wang ZG. Experimental study of viscoelastic characteristics of canine ventricular myocardium in vitro. *Journal of Chongqing Medical University (in Chinese)*. 2007; 32: 255-409.
- Deng HS, Huang J, Deng CM, ..., Zheng YP. Biomechanical properties assessment of myocardium in vivo by interventional ultrasound catheter: Design of Instrument. *Chinese Journal of Medical Imaging Technology (in Chinese)*. 2006; 22: 1543-1546.
- Hu YH, Shi J, and Zheng YP. Isometric contraction of skeletal muscle with multiparameters. *Technical Acoustics (in Chinese)*. 26(1): 46-50, 2007.
- Shi J, Zheng YP, and Yan ZZ. The preliminary study of development and application of the ultrasound elastomicroscopy. *Technical Acoustics (in Chinese)*. 226(2):228-233, 2007.

## 2006

- Huang QH and Zheng YP. An adaptive squared-distance-weighted interpolation for volume reconstruction in 3D freehand ultrasound. *Ultrasonics*. 44: e73-77, 2006.
- Zheng YP, Lu MH, and Wang Q. Ultrasound elastomicroscopy using water jet and osmosis loading: Potentials for assessment for articular cartilage. *Ultrasonics*. 44: e203-e209. 2006.
- Zheng YP, Li ZM, Choi APC, Lu MH, Chen X, and Huang QH. Ultrasound palpation sensor for tissue thickness and elasticity measurement - assessment of transverse carpal ligament. *Ultrasonics*. 44: e313-e317, 2006
- Qin L, Lu HB, Fok PK, Cheung WC, Zheng YP, KM Lee, Leung KS. Low intensity pulsed ultrasound accelerates osteogenesis at bone-tendon junction healing junction. *Ultrasound in Medicine and Biology*. 32: 1905-1911, 2006
- Wang Q and Zheng YP. Quantitative analysis of shrinkage and swelling behavior of articular cartilage using high-frequency ultrasound. *Journal of Biomedical Engineering (in Chinese)*. 25: 571-579, 2006
- Zheng YP, Patil S, Wang Q. Ultrasound Speed in Articular Cartilage under Different Bathing Saline Concentration. *Key Engineering Materials*. 321-323: 972-977, 2006
- Zhou YJ, Zheng YP, Wang CZ, and Yuan JF. Extraction of respiratory activity from photoplethysmographic signals based on independent component analysis technique: A preliminary report. *Instrumentation Science and Technology*. 34: 537-545, 2006
- Yu W, Li YB, Lim NY, Lu MH, Zheng YP, and Fan JT. Softness measurements for open-cell foam materials and human soft tissue. *Measurement Science and Technology*. 17: 1785-1791, 2006
- Zheng YP, Chan MMF, Shi J, Chen X, Huang QH. Sonomyography: Monitoring morphological changes of forearm muscles in actions with the feasibility for the control of powered prosthesis. *Medical Engineering and Physics*. 28(5): 405-415, 2006
- Wang Q and Zheng YP. Osmotic-induced shrinkage and swelling of normal bovine patellar articular cartilage in situ monitored using real-time high-frequency ultrasound. *Instrumentation Science and Technology*. 34(1): 1-18, 2006
- Shi J, Hu YH, Zheng YP, Zhou KY, Chen X, Huang QH. Fatigue assessment using ultrasound: A preliminary study. *Applied Acoustics*. 25(1): 2006

## 2005

- Hu YH, Shi J, Zheng YP. The measurement of Skeletal Muscle with Multi-parameters by Sonography. *Journal of Biomedical Engineering Research (in Chinese)*. 24(3): 168-170, 2005
- Huang QH, Zheng YP, and Lee R. 3D measurement of body tissues based on ultrasound images with 3D spatial information. *Ultrasound in Medicine and Biology*. 31(12):1607-15, 2005
- Zheng YP, Niu HJ, Mak AFT, and Huang YP. Ultrasonic Measurement of depth-dependent transient behaviors of articular cartilage under compression. *Journal of Biomechanics*. 38(9):1830-7, 2005
- Zheng YP, Heung J, Hung LK, Huang QH, and Li ZM. Ultrasound assessment of the median nerve and tendons in the carpal tunnel. *The Pittsburgh Orthopaedic Journal*. 16:122. 2005
- Lau J, Li WPC, and Zheng YP. Application of tissue ultrasound palpation system (TUPS) in objective scar evaluation. *Burns* 31: 445-452, 2005
- Lu MH, Zheng YP, and Huang QH. A Novel non-contact ultrasound indentation system for measurement of tissue material properties using water compression. *Ultrasound in Medicine and Biology*. 31: 817-826, 2005
- Choi PC and Zheng YP. Estimating the Young's modulus and Poisson's Ratio of Soft Tissue from Indentation using Two Different Sized Indentors – Finite Element Analysis of the Effects of Large Deformation. *Medical and Biological Engineering and Computing*. 43: 258-264, 2005

- Huang QH and Zheng YP. A new scanning approach using a film container filled with water in freehand 3D ultrasound. *Ultrasound in Medicine and Biology*. 31: 575-583, 2005
- Shi J, Hu YH, Zhou KY, Zheng YP. Study of the transient and depth-dependent swelling behavior of articular cartilage by ultrasound. *Applied Acoustics (in Chinese)*. 24(2),78-82, 2005
- Shi J, Zheng YP, Chen WH, Zhou KY, Chen X, and He L. The preliminary study of sonomyography (SMG). *Acoustic Techniques (in Chinese)*. 24(1): 29-33, 2005
- Huang YP, Zheng YP, and Leung SF. Quasilinear viscoelastic parameters of neck tissues with fibrosis induced by radiotherapy. *Clinical Biomechanics*. 20: 145-154, 2005
- Huang QH, Zheng YP, Lu MH, and Chi ZR. Development of a portable 3D ultrasound imaging system for musculoskeletal tissues. *Ultrasonics*. 43: 153-163, 2005

#### **2004**

- Shi J, Hu YH, Zhou KY, and Zheng YP. The research advances in motor neuroprosthesis. *Chinese Journal of Medical Instrumentation (in Chinese)*. 28: 271-276, 2004.
- Fan YB, Pu F, Zhang M, Jiang WT, Yang SQ, Leung KL, Zheng YP, Mak AFT. Biomechanical evaluation techniques for personalized lower-limb prosthetic socket designing. *Chinese Journal of Biomedical Engineering (in Chinese)*. 23(6), 2004
- Shi J, Zhou KY, Hu YH, Zheng YP. Application of real-time ultrasound swelling measurement in articular cartilage research. *Technical Acoustics (in Chinese)*. 23(4): 224-228, 2004
- Lu MH and Zheng YP. Indentation test of soft tissues with curved substrates: a finite element study. *Medical and Biological Engineering and Computing*. 42: 535-540, 2004.
- Zheng YP, Bridal SL, Shi J, Saied A, Lu MH, Jaffre B, Mak AFT, Laugier P. High resolution ultrasound elastomicroscopy imaging of soft tissues: System development and feasibility. *Physics in Medicine and Biology*. 49: 3925-3938, 2004
- Patil SG, Zheng YP, and Shi J. Measurement of Depth-dependence and anisotropy of ultrasound speed of bovine articular cartilage in vitro. *Ultrasound in Medicine and Biology*. 30: 953-963, 2004
- Zheng YP, Shi J, Qin L, Patil SG, Mow VC, and Zhou KY. Dynamic Depth-dependent Osmotic Swelling and Solute Diffusion in Articular Cartilage Monitored using Real-time Ultrasound. *Ultrasound in Medicine and Biology* 30: 841-849, 2004

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