

CURRICULUM VITAE

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Date of birth: 02-17-1976

Nationality: China

Education

2002-2005 Ph.D. in Biophysics, the Fourth Military Medical University, China

Dissertation: Experiment study on the technology of detecting the target information based on bioradar

Supervisor: Professor Guosheng Yang

1999-2002 MSc. in Biomedical Engineering, the Fourth Military Medical University, China

Dissertation: The technology for constraining the self-dithering interference of the system for non-contact physiological-parameter detection

Supervisor: Professor Jianqi Wang

1994-1999 Bachelor in Biomedical Engineering, the Fourth Military Medical University, China

Thesis: Design of the electric driving system in electrical impedance tomography

Supervisor: Dr Fusheng You

Employment

Since 09-2011: Associate professor in Department of Biomedical Engineering, the Fourth Military Medical University, China

06-2005 to 08-2011: Lecturer in Department of Biomedical Engineering, the Fourth Military Medical University, China

09-2007 to 05-2009: Academic visitor and post-doctor in Department of Physiology, University of Oxford, UK.

06-2002 to 05-2005: Teaching Assistant in Department of Biomedical Engineering, the Fourth Military Medical University, China.

Research

2012-present R&D of Micro bio-radar to bedside monitor human heartbeat and breathing for applications in medicine.

Development of compact and portable 24GHz micro bio-radar to bedside monitor human heartbeat and breathing signals. Using self-correlation and adaptive line enhancer methods to minimize the interferences of any moving objects around the human subject. Based on the method of wavelet information entropy spectrum to judge the occurrence of obstructive sleep apnea.

2006-2011 Physiological signals extraction.

Extraction of the heartbeat parameters from the mixture of the respiration and heartbeat signals detected by bio-radar sensors using wavelet technique.

2000-2005 Non-contact life-parameter detection using adaptive filter and radar theory.

The physiological signals were monitored by vibration sensors remotely and then the detected signals were processed in real time to remove the self-dithering interference using adaptive filter based on fixed or variable step algorithm.

Grants

2015 :Research grant from the National Natural Science Foundation of China for four years.

Total Value: ¥7500,000.

2014: Research grant from the National Key Technology R&D Program of China for three years. Total Value: ¥4000,000.

2012: Research grant from the National Natural Science Foundation of China for four years.

Total Value: ¥800,000.

Publications in bio-radar field

1. Fugui Qi, Chuantao Li, Shuaijie Wang, Hua Zhang, Jianqi Wang, **Guohua Lu(*)**, Contact-Free Detection of Obstructive Sleep Apnea Based on Wavelet Information Entropy Spectrum Using Bio-Radar, *Entropy*, 2016, 18(306): 1~12,
2. Li, Chuantao, Chen, Fuming, Qi, Fugui, Liu, Miao, Li, Zhao, Liang, Fulai, Jing, Xijing, **Lu, Guohua(*)**, Wang, Jianqi(*), Searching for Survivors through Random Human-Body Movement Outdoors by Continuous-Wave Radar Array, *Plos One*, 2016, 11(4), 1~13,

3. Li, Chuanta, Chen, Fuming, Jin, Jingxi, Lv, Hao, Li, Sheng, **Lu, Guohua(*)**, Wang, Jianqi(*), A Method for Remotely Sensing Vital Signs of Human Subjects Outdoors, *Sensors*, 2015, 15(7): 14830~14844,
4. Li, Chuantao, **Lu, Guohua(*)**, Chen, Fuming, Qi, Fugui, Wang, Jianqi, Contact-free Detection of Respiration Signal from Continuously Moving-object Noise via a Doppler Radar Using Adaptive Line Enhancer, *IEEE 28th Canadian Conference on Electrical and Computer Engineering (CCECE)*, Halifax, CANADA, 2015.05.03-2015.05.06
5. Hua Zhang, Sheng Li, Xijing Jing, Yang Zhang, Teng Jiao, Peifei Zhang, Hao Lv, Huijun Xue, **Guohua Lu(*)**, Jianqi Wang, A separation technology for Biological radar signals of respiration and heartbeat, *Applied Mechanics and Materials*, 2013, (411): 1564~1568,
6. Li, Sheng, Tian, Ying, **Lu, Guohua**, Zhang, Yang, Lv, Hao, Yu, Xiao, Xue, Huijun, Zhang, Hua, Wang, Jianqi(*), Jing, Xijing, A 94-GHz Millimeter-Wave Sensor for Speech Signal Acquisition, *Sensors*, 2013, 13(11): 14248~14260
7. **Lu Guo-Hua**, Wang Hua, Xue Hun-Jun, Li Sheng, Jing Xi-Jing, Yu Xiao, Lv Hao and Wang Jian-Q. Contact-free measurement of cardiopulmonary signatures via a microwave Doppler radar using adaptive filter. *Scientific Research and Essays*.2013; 8(2): 62-66,
8. S. Li, Y. Tian, **G. Lu**, Y. Zhang, H. J. Xue, J.-Q. Wang, and X.-J. Jing, A new kind of non-acoustic speech acquisition method based on millimeter waveradar, *Progress In Electromagnetics Research*,2012; 130: 17-40
9. **Guohua Lu**,Xijing Jing, Xiao Yu, Hua Wang, Jianqi Wang.A Microwave sensor for contact-free measurement of human heart rate. *Key Engineering Materials*. 2012;500:325-329
10. **Guohua Lu**, Xijing Jing, Jianqi Wang.A Contact-free monitor of human vital signs. *Applied Mechanics and Material*.2012;138-139:1063-1066
11. **Guohua Lu**, Fang Yang, Yue Tian, Xijing Jing and Jianqi Wang. Contact-free measurement of heart rate variability via a microwave sensor.*Sensors*. 2009;9(12): 9572-9581.
12. **Guohua Lu** and Fang Yang. Limitations of Oximetry to Measure Heart Rate Variability Measures. *Cardiovascular Engineering*, 2009. 9(3): 119-125