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## MAJOR RESEARCH INTERESTS

1. Robotics for Neurorehabilitation
2. Robotics for Minimally Invasive Surgery
3. Human Biomechanics and Sensorimotor Learning and Control
4. Health Monitoring and Healthcare Informatics
5. Biologically Inspired Robotics
6. Smart Materials and Actuators
7. Intelligent Control Systems and Machine Learning

## SELECTED PUBLICATIONS

1. Xiang Li, Yongping Pan, Gong Chen, and Haoyong Yu, "Multi-modal control scheme for rehabilitation robotic exoskeletons," International Journal of Robotics Research (IJRR), 2017 (in press) (IF=2.540).
2. Li, Xiang, Yongping Pan, Gong Chen, and Haoyong Yu. "Adaptive Human-Robot Interaction Control for Robots Driven by Series Elastic Actuators." IEEE Transactions on Robotics 33, no. 1 (2016): 169-82. doi:10.1109/tro.2016.2626479. (IF= 2.430)
3. Pan, Yongping, and Haoyong Yu. "Composite Learning From Adaptive Dynamic Surface Control." IEEE Transactions on Automatic Control 61, no. 9 (2016): 2603-609. doi:10.1109/tac.2015.2495232. (IF=2.779).
4. Chen, Gong, Peng Qi, Zhao Guo, and Haoyong Yu. "Mechanical design and evaluation of a compact portable knee-ankle-foot robot for gait rehabilitation." Mechanism and Machine Theory 103 (2016): 51-64. doi:10.1016/j.mechmachtheory.2016.04.012. (IF= 1.660)
5. Li, Xiang, Yongping Pan, Gong Chen, and Haoyong Yu. "Continuous Tracking Control for a Compliant Actuator With Two-Stage Stiffness." IEEE Transactions on Automation Science and Engineering, 2016, 1-10. doi:10.1109/tase.2016.2574741. (IF=2.428)
6. Pan, Yongping, and Haoyong Yu. "Biomimetic Hybrid Feedback Feedforward Neural-Network Learning Control." IEEE Transactions on Neural Networks and Learning Systems, 2016, 1-7. doi:10.1109/tnnls.2016.2527501. (IF=4.291).
7. Sariyildiz, Emre, Gong Chen, and Haoyong Yu. "An Acceleration-Based Robust Motion Controller Design for a Novel Series Elastic Actuator." IEEE Transactions on Industrial Electronics 63, no. 3 (2016): 1900-910. doi:10.1109/tie.2015.2512228. (IF=6.5)
8. Chen, Gong, Peng Qi, Zhao Guo, and Haoyong Yu. "Gait-Event-Based Synchronization Method for Gait Rehabilitation Robots via a Bio-inspired Adaptive Oscillator." IEEE Transactions on Biomedical Engineering, 2016, 1. doi:10.1109/tbme.2016.2604340. (IF: 2.348)
9. Pan, Yongping, Tairen Sun, and Haoyong Yu. "Peaking-Free Output-Feedback Adaptive Neural Control Under a Nonseparation Principle." IEEE Transactions on Neural Networks and Learning Systems 26, no. 12 (2015): 3097-108. doi:10.1109/tnnls.2015.2403712. (IF=4.291).
10. Peng, Yuxin, Jie Cao, Zhao Guo, and Haoyong Yu. "A linear actuator for precision positioning of dual objects." Smart Materials and Structures 24, no. 12 (2015): 125039. doi:10.1088/0964-1726/24/12/125039. (IF=2.502)
11. Yu, Haoyong, Sunan Huang, Gong Chen, Yongping Pan, and Zhao Guo. "Human-Robot Interaction Control of Rehabilitation Robots With Series Elastic Actuators." IEEE Transactions on Robotics 31, no. 5 (2015): 1089-100. doi:10.1109/tro.2015.2457314. (IF = 3.64)
12. Guo, Zhao, Yongping Pan, Liang Boon Wee, and Haoyong Yu. "Design and control of a novel compliant differential shape memory alloy actuator." Sensors and Actuators A: Physical 225 (2015): 71-80. doi:10.1016/j.sna.2015.01.016. (IF=1.903)
13. Pan, Yongping, Haoyong Yu, and Tairen Sun. "Global Asymptotic Stabilization Using Adaptive Fuzzy PD Control." IEEE Transactions on Cybernetics 45, no. 3 (2015): 574-82. doi:10.1109/tycb.2014.2331460. (IF=3.469).
14. Pan, Yongping, and Haoyong Yu. "Dynamic surface control via singular perturbation analysis." Automatica 57 (2015): 29-33. doi:10.1016/j.automatica.2015.03.033. (IF=3.020).
15. Pan, Yongping, Haoyong Yu, and Meng Joo Er. "Adaptive Neural PD Control With Semiglobal Asymptotic Stabilization Guarantee." IEEE Transactions on Neural Networks and Learning Systems 25, no. 12 (2014): 2264-274. doi:10.1109/tnnls.2014.2308571. (IF=4.291).