

Publications

Journal Articles Published:

- J1. **V. Vashista**, Moiz Khan, and S. K. Agrawal, "A Novel Approach to Apply Gait Synchronized External Forces on the Pelvis Using A-TPAD to Reduce Walking Effort," *IEEE Robotics and Automation Letters*, 1(2), 1118-1124, 2016.
- J2. D. Martelli, **V. Vashista**, Silvesto Micera and S. K. Agrawal, "Direction-dependent adaptation of dynamical gait stability following waist-pull perturbations," *IEEE Transaction on Neural Systems and Rehabilitation Engineering 2015 (in press, DOI: 10.1109/TNSRE.2015.2500100)*.
- J3. **V. Vashista**, D. Martelli and S. K. Agrawal, "Locomotor Adaptation to an Asymmetric Force on the Human Pelvis directed along the Right Leg," *IEEE Transactions on Neural Systems and Rehabilitation Engineering 2015 (in press, DOI: 10.1109/TNSRE.2015.2474303)*.
- J4. Q. J. Duan, **V. Vashista** and S. K. Agrawal, "Effect on Wrench Feasible Workspace of Cable-Driven Parallel Robots by Adding Springs", *Mechanism and Machine Theory*, vol. 86, pp. 201-210, 2015.
- J5. **V. Vashista**, N. Agrawal, S. Shaharudin, D. S. Reisman and S. K. Agrawal, "Force Adaptation in Human Walking with Symmetrically Applied Downward Forces on the Pelvis," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol. 21(6), pp. 969-78, 2013.

Peer-Reviewed International Conference Articles:

- C1. D. Martelli, **V. Vashista**, Silvesto Micera and S. K. Agrawal, "Locomotor adaptations following repeated waist-pull perturbations," *IEEE International Conference on Rehabilitation Robotics (ICORR)*, pp. 636-641, 2015.
- C2. J. Kang, **V. Vashista** and S. K. Agrawal, "A novel assist-as-needed control method to guide pelvic trajectory for gait rehabilitation," *IEEE International Conference on Rehabilitation Robotics (ICORR)*, pp. 630-635, 2015.
- C3. R. Aggarwal, M. Behari, S. K. Agrawal, I. Pretzer-Aboff, K. Winfree, Dhankar, G. Dhankar, T. Shiva and **V. Vashista**, "Clinical outcomes of step synchronized vibration training in Parkinson's disease patients," In *MOVEMENT DISORDERS*, Vol. 30, pp. S424-S424, 2015.
- C4. J. H. Park, D. Zanutto, **V. Vashista**, X. Jin, P. Stegall and S. K. Agrawal, "Second Spine: A Device to relieve stresses on the upper body during loaded walking," In *Biomedical Robotics and Biomechanics, 2014 IEEE RAS & EMBS International Conference on*. (pp. 689-694).
- C5. **V. Vashista**, X. Jin and S. K. Agrawal, "Active Tethered Pelvic Assist Device (A-TPAD) to Study Force Adaptation in Human Walking," In *Robotics and Automation (ICRA), 2014 IEEE International Conference on* (pp. 718-723).
- C6. B. Lenzo, D. Zanutto, **V. Vashista**, A. Frisoli and S. K. Agrawal, "A New Constant Pushing Force Device for Human Walking Analysis," In *Robotics and Automation (ICRA), 2014 IEEE International Conference on* (pp. 6174-6179).
- C7. **V. Vashista**, D. S. Reisman and S. K. Agrawal, "Asymmetric Adaptation in Human Walking using the Tethered Pelvic Assist Device (TPAD)," *IEEE International Conference on Rehabilitation Robotics (ICORR)*, pp. 1-5, 2013.
- C8. J. H. Park, P. Stegall, D. Zanutto, **V. Vashista**, X. Jin and S. K. Agrawal, "Design of the Second Spine: A Secondary Pathway to Transfer Loads from the Shoulders to the Pelvis," In *International Design Engineering Technical Conferences (IDETC) and Computers and Information in Engineering Conference, ASME 2013*.

- C9. **V. Vashista**, N. Agrawal, S. Shaharudin, D. S. Reisman and S. K. Agrawal, "Force Adaptation in Human Walking with Symmetrically Applied Downward Forces on the Pelvis," IEEE EMBS, San Diego, California USA, Aug. 28 – Sep. 1, 2012.
- C10. **V. Vashista**, S. K. Mustafa and S. K. Agrawal, "Experimental Studies On The Human Gait Using A Tethered Pelvic Assist Device (T-PAD)," IEEE International Conference on Rehabilitation Robotics (ICORR), ETH Zurich Science City, Switzerland, June 29 – July 1, 2011.

Peer-Reviewed National Conference Articles:

- C11. **V. Vashista**, X. Chen and S. K. Agrawal, "Adult-Human Learning on a Robotic Wheelchair Using a Force Feedback Joystick," Proc. of the Int. Nat. Conf. on Mach. And Mech. (iNaCoMM), IIT Roorkee, India, Dec 18-20, 2013.
- C12. **V. Vashista**, A. Jere, S. Rane, V. Grover, and S. K. Saha, "Synthesis and analysis of a new mechanism for sheep shearing machine," Proc. of the Nat. Conf. on Mach. And Mech., IISc Bangalore, India, Dec. 12-13, pp. 1-7, 2007.
- C13. S. Rane, V. Grover, **V. Vashista**, A. Jere, and S. K. Saha, "Computer aided analysis of a sheep shearing machine," CD-Proc. of the Nat. Conf. on Emerging Trends in Mechanical Engineering, SVNIT, Surat, June 4-5, pp. 1-10, 2007.

Symposium Presentations and Posters:

- S1. L. Bishop, J. Stein, **V. Vashista**, M. Khan, S. Hinds, and S. K. Agrawal, "Stroke Survivor Gait Adaptations Using Asymmetric Forces with the Tethered Pelvic Assist Device," American Congress of Rehabilitation Medicine Annual Conference 2015.
- S2. **V. Vashista**, S. K. Mustafa, and S. K. Agrawal, "Experimental studies on the human gait using a tethered pelvic assist device (TPAD)," Center for Biomedical Engineering Research Symposium, 2011.
- S3. **V. Vashista**, X. Chen, S. Saharuddin, S. K. Mustafa, and S. K. Agrawal, "Adult-human learning on a robotic wheelchair using a force feedback joystick," Center for Biomedical Engineering Research Symposium, 2011.
- S4. K. N. Winfree, S. Saharuddin, **V. Vashista**, D. Hilgart, I. Pretzer-Aboff, and S. K. Agrawal, "An untethered shoe with vibratory feedback for improving gait of Parkinson's patients: The PDShoe," Center for Biomedical Engineering Research Symposium, 2011.