Publications

Doctoral Thesis

PhD Y. Karayiannidis. Robot force/position control under kinematic uncertainties in the contacted surface, *PhD Thesis*, Monography, Language: Greek, Aristotle University of Thessaloniki, 2009.

Articles in International Scientific Refereed Journals.

J1. Z. Doulgeri and Y. Karayiannidis. Force position control for a robot finger with a soft tip and kinematic uncertainties. *Robotics and Autonomous Systems*, 55(4):328–336, 2007.

J2. Z. Doulgeri and Y. Karayiannidis. Performance analysis of a soft tip robotic finger controlled by a parallel force/position regulator under kinematic uncertainties. *IET Control Theory and Applications*, 1(1):273–280, 2007.

J3. Y. Karayiannidis, G. Rovithakis, and Z. Doulgeri. Force/position tracking for a robotic manipulator in compliant contact with a surface using neuro-adaptive control. *Automatica*, 43(7):1281–1288, 2007.

J4. Z. Doulgeri and Y. Karayiannidis. Force/position regulation for a robot in compliant contact using adaptive surface slope identification. *IEEE Transactions on Automatic Control*, 53(9):2116–2122, 2008.

J5. Z. Doulgeri and Y. Karayiannidis. Force/position control self-tuned to unknown surface slopes using motion variables. *Robotica*, (6):703–710, 2008.

J6. Y. Karayiannidis and Z. Doulgeri. Adaptive control of robot contact tasks with on-line learning of planar surfaces. *Automatica*, 45(10):2374–2382, 2009.

J7. Y. Karayiannidis and Z. Doulgeri. Blind force/position control on unknown planar surfaces. *IET Control Theory and Applications*, 3(5):595–603, 2009.

J8. Y. Karayiannidis and Z. Doulgeri. Robot contact tasks in the presence of control target distortions. *Robotics and Autonomous Systems*, 58(5):596–606, 2010.

J9. Y. Karayiannidis and Z. Doulgeri. Model-free robot joint position regulation and tracking with prescribed performance guarantees. *Robotics and Autonomous Systems*, 60(2):214–226, 2012.

J10. C. Smith, Y. Karayiannidis, L. Nalpantidis, X. Gratal, P. Qi, D. V. Dimarogonas, and D. Kragic. Dual arm manipulation – a survey. *Robotics and Autonomous Systems*, 60(10):1340 – 1353, 2012.

J11. Y. Karayiannidis and Z. Doulgeri. Regressor-free prescribed performance robot tracking. *Robotica*, 31(08):1229–1238, 12 2013.

J12. M. Zambelli, Y. Karayiannidis, and D.V. Dimarogonas. Posture regulation for unicycle-like robots with prescribed performance guarantees. *IET Control Theory Applications*, 9(2):192–202, 2015.

J13. Yiannis Karayiannidis, Leonidas Droukas, Dimitrios Papageorgiou, and Zoe Doulgeri. Robot control for task performance and enhanced safety under impact. *Frontiers in Robotics and AI*, 2(34), 2015.

J14. Y. Wang, C. Smith, Y. Karayiannidis, and P. Ögren. Whole body control of a dual-arm mobile robot using a virtual kinematic chain. *International Journal of Humanoid Robotics*, 13(1), 2016.

J15. Y. Karayiannidis, C. Smith, F. Vina, P. Ögren, and D. Kragic. An adaptive control approach for opening doors and drawers under uncertainties. *IEEE Transactions on Robotics*, 32(1):161 – 175, 2015.

J16. Y. Karayiannidis, D. Papageorgiou, and Z. Doulgeri. A model-free controller for guaranteed prescribed performance tracking of both robot joint positions and velocities. *IEEE Robotics and Automation Letters*, 1(1):267 – 273, 2016.

Articles in International Refereed Conferences/Workshops

C1. Z. Doulgeri and Y. Karayiannidis. An adaptive force regulator for a robot in compliant contact with an unknown surface. In *Proceedings - IEEE International Conference on Robotics and Automation*, volume 2005, pages 2685–2690, 2005.

C2. Y. Karayiannidis and Z. Doulgeri. Force/position regulation for a robotic finger in compliant contact with an unknown surface. In *Proceedings of the 20th IEEE International Symposium on Intelligent Control, ISIC '05 and the 13th Mediterranean Conference on Control and Automation, MED '05*, pages 77–82, 2005.

C3. Y. Karayiannidis and Z. Doulgeri. An adaptive law for slope identification and force position regulation using motion variables. In *Proceedings - IEEE International Conference on Robotics and Automation*, pages 3538–3543, 2006.

C4. Y. Karayiannidis, G. Rovithakis, and Z. Doulgeri. A neuro-adaptive controller for the force/position tracking of a robot manipulator under model uncertainties in compliance and friction. In *14th Mediterranean Conference on Control and Automation, MED'06*, 2006.

C5. Y. Karayiannidis, G. Rovithakis, and Z. Doulgeri. Force/position tracking for a robotic finger in compliant contact with a surface using neuro-adaptive control. In *IEEE International Symposium on Intelligent Control - Proceedings*, pages 1608–1613, 2006.

C6. Z. Doulgeri and Y. Karayiannidis. Force/position tracking of a robot in compliant contact with unknown stiffness and surface kinematics. In *Proceedings - IEEE International Conference on Robotics and Automation*, pages 4190–4195, 2007.

C7. Z. Doulgeri and Y. Karayiannidis. An adaptive law for slope identification, position tracking and force regulation for a robot in compliant contact with an unknown surface. In *2007 Mediterranean Conference on Control and Automation, MED*, 2007.

C8. Y. Karayiannidis and Z. Doulgeri. Robot force/position tracking on a surface of unknown orientation. In *European Robotics Symposium 2008, Springer Tracts in Advanced Robotics*, volume 44, pages 253–262, 2008.

C9. Y. Karayiannidis and Z. Doulgeri. Adaptive control for frictional robot contact tasks on uncertain surface slopes. In *2008 Mediterranean Conference on Control and Automation - Conference Proceedings, MED'08*, pages 932–937, 2008.

C10. Z. Doulgeri, Y. Karayiannidis, and O. Zoidi. Prescribed performance control for robot joint trajectory tracking under parametric and model uncertainties. In *17th Mediterranean Conference on Control and Automation, 2009. MED '09.*, pages 1313–1318, 2009.

C11. Z. Doulgeri and Y. Karayiannidis. PID type robot joint position regulation with prescribed performance guaranties. In *Proceedings - IEEE International Conference on Robotics and Automation*, pages 4137–4142, 2010.

C12. Y. Karayiannidis and Z. Doulgeri. Robot joint position tracking with an approximator-free prescribed performance controller. In *2011 19th Mediterranean Conference on Control and Automation, MED 2011*, pages 564–569, 2011.

C13. Y. Karayiannidis and Z. Doulgeri. Regressor-free robot joint position tracking with prescribed performance guarantees. In *2011 IEEE International Conference on Robotics and Biomimetics (ROBIO)*, pages 2312–2317, 2011.

C14. J. Markdahl, Y. Karayiannidis, X. Hu, and D. Kragic. Distributed cooperative object attitude manipulation. In *IEEE International Conference on Robotics and Automation (ICRA)*, pages 2960–2965, 2012.

C15. Y. Karayiannidis, C. Smith, P. Ögren, and D. Kragic. Adaptive force/velocity control for opening unknown doors. In *International IFAC Symposium on Robotic Control*, pages 826–831, Dubrovnik, Croatia, Sep 2012.

C16. P. Ögren, C. Smith, Y. Karayiannidis, and D. Kragic. A multi objective control approach to online dual arm manipulation. In *International IFAC Symposium on Robotic Control*, pages 820–825, Dubrovnik, Croatia, sep 2012.

C17. J. Markdahl, Y. Karayiannidis, and X. Hu. Cooperative object path following control by means of mobile manipulators: a switched systems approach. In *International IFAC Symposium on Robotic Control*, pages 846–851, Dubrovnik, Croatia, sep.

C18. Y. Karayiannidis, C. Smith, F. Viña, P. Ögren, and D. Kragic. "Open Sesame!" - Adaptive Force/Velocity Control for Opening Unknown Doors. In *IEEE/RAS Conference on Intelligent Robots and Systems*, pages 4040–4047, Vilamoura, Portugal, 2012.

C19. Y. Karayiannidis, C. Smith, F. Viña, P. Ögren, and D. Kragic. Design of force-driven online motion plans for door opening under uncertainties. In *IEEE/RAS Conference on Intelligent Robots and Systems: Workshop on Real-time Motion Planning: Online, Reactive, and in Real-time*, Vilamoura, Portugal, 2012.

C20. C. Smith and Y. Karayiannidis. Optimal Command Ordering for Serial Link Manipulators. In *IEEE/RAS International Conference on Humanoid Robots*, pages 255–261, Osaka, Dec 2012.

C21. Y. Karayiannidis, Dimarogonas D. V., and D. Kragic. Multi-agent average consensus control with prescribed performance guarantees. In *Proceedings of 51st IEEE Conference on Decision and Control*, pages 2219–2205, Maui, Hawaii, 2012.

C22. Y. Karayiannidis, C. Smith, F. Vina, P. Ögren, and D. Kragic. Model-free robot manipulation of doors and drawers by means of fixed-grasps. In *IEEE International Conference on Robotics and Automation*, pages 4470–4477, 2013.

C23. Y. Karayiannidis, C. Smith, F. Vina, P. Ögren, and D. Kragic. Interactive perception and manipulation of unknown constrained mechanisms using adaptive control. In *Mobile Manipulation Workshop on Interactive Perception, IEEE International Conference on Robotics and Automation*, 2013.

C24. Y. Karayiannidis, C. Smith, F. Vina, and D. Kragic. Online kinematics estimation for active human-robot manipulation of jointly held objects. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 4872–4878, 2013.

C25. F. Vina, Y. Bekiroglu, C. Smith, Y. Karayiannidis, and D. Kragic. Predicting slippage and learning manipulation affordances through gaussian process regression. In *IEEE-RAS International Conference on Humanoid Robots*, pages 462–468, 2013.

C26. Y. Karayiannidis, C. Smith, F. Vina, and D. Kragic. Online contact point estimation for uncalibrated tool use. In *IEEE International Conference on Robotics and Automation (ICRA)*, pages 2488–2494, 2014.

C27. F. Vina, C. Smith, D. Kragic, and Y. Karayiannidis. Adaptive contact point estimation for autonomous tool manipulation. In *Autonomous Grasping and Manipulation Workshop. IEEE International Conference on Robotics and Automation (ICRA'14)*, 2014.

C28. Y. Wang, F. Vina, C. Smith, Y. Karayiannidis, and P. Ögren. Dual arm manipulation using constraint based programming. In *IFAC World Congress*, pages 311–319, 2014.

C29. Y. Karayiannidis, C. Smith, and D. Kragic. Mapping human intentions to robot motions via physical interaction through a jointly-held object. In *23rd IEEE International Symposium on Robot and Human Interactive Communication (ROMAN)*, pages 391–397, 2014.

C30. L. Droukas, Y. Karayiannidis, and Z. Doulgeri. Force/position/rolling control for spherical tip robotic fingers. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 858–863, 2015.

C31. Y. Wang, C. Smith, Y. Karayiannidis, and P. Ögren. Cooperative control of a serial-to-parallel structure using a virtual kinematic chain in a mobile dual-arm manipulation application. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 2372–2379, 2015.

C32. F. Vina, Y. Karayiannidis, K. Pauwels, C. Smith, and D. Kragic. In-hand manipulation using gravity and controlled slip. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 5636–5641, 2015.

C33. Y. Markdahl, X. Hu, D. Kragic, and Y. Karayiannidis. A Hybrid Control Approach to Task Priority Based Mobile Manipulation . In *54th IEEE Conference on Decision and Control (CDC)*, pages 801 – 806, 2015.

C34. F. Vina, Y. Karayiannidis, C. Smith, and D. Kragic. In-hand manipulation using gravity and controlled slip. In *IEEE International Conference on Robotics and Automation*, pages 399–406, 2016.

C35. D. Almeida and Y. Karayiannidis. Folding assembly by means of dual-arm robotic manipulation. In *IEEE International Conference on Robotics and Automation*, pages 3987–3993, 2016.

C36. Y. Karayiannidis, L. Droukas, and Z. Doulgeri. Operational space robot control for motion performance and safe interaction under unintentional contacts. In *European Control Conference*, 2016.