Editor's Note:
It is my pleasure to bring you the most recent newsletter of our technical committee. The newsletter is a brief snapshot of the ongoing projects and opportunities in our area. If you would like your announcement to appear in the next newsletter, send me an email (dberenson@cs.wpi.edu). Thanks to all the contributors!

Technical Committee on Mobile Manipulation Newsletter (September 2013)

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1. NEW ROBOT VIDEOS

An amazing video collage of TCMM member research compiled by Dejan Pangercic:
http://www.mobilemanipulation.org/index.php/various-media/videos

Achievable Push-Manipulation for Complex Passive Mobile Objects using Past Experience
http://www.youtube.com/watch?v=TORQdBPHJ3g
(Thanks to Tekin Mericli)

The new mobile manipulator Annie:
http://www.youtube.com/watch?v=7kMu4snPLD4
(Thanks to Jose Saenz)

The PR2 learning IKEA furniture assembly from demonstration:
http://www.youtube.com/watch?v=oIbfhHRt9AA
(Thanks to Scott Niekum)

Preliminary results from our NSF National Robotics Initiative project on the Contact-SLAM problem: The objective is to incorporate a physics-based model of multi-body dynamics into a recursive Bayesian filter to obtain accurate tracking of the state of a robotic system. In the video, the WAM/Hand system performs a push-grasp of the cylinder.
https://docs.google.com/file/d/0B_zv3z3TVwCbcFVLQXZSdTc2cms/edit?usp=drive_web
(Thanks to Jeff Trinkle and Li (Emma) Zhang)

A framework for the DRC-Hubo robot to do valve-turing task in the DARPA robotics challenge developed at WPI as part of team Hubo:
http://www.youtube.com/watch?v=xGSh8oYaHJI

Autonomous and collaborative manipulation of deformable objects using an approximate jacobian-based controller:
http://www.youtube.com/watch?v=y6To3LlieEg

Soft Pneumatic hand prototype at WPI based on the work of (Raphael Deimel and Oliver Brock at TU Berlin):
http://www.youtube.com/watch?v=ebBWUzIXsms

Human-Robot Collaborative Manipulation Planning Using Early Prediction of Human Motion:
http://www.youtube.com/watch?v=mKG8-OyDi90

2. NEW PROJECT WEBSITES

RoboHow is a four-year European research project that started in February 2012. It aims at enabling robots to competently perform everyday human-scale manipulation activities - both in human working and living environments. In order to achieve this goal, RoboHow pursues a knowledge-enabled and plan-based approach to robot programming and control. The vision of the project is that of a cognitive robot that autonomously performs complex everyday manipulation tasks and extends its repertoire of such by acquiring new skills using web-enabled and experience-based learning as well as by observing humans.
Website: http://robohow.eu/
Video: http://youtu.be/qQG3CkH27qc
(Thanks to Moritz Tenorth)

The Carlos European Project starts this September and deals with the development of a mobile robot focused in shipyard scenario as a robot co-worker for fit-out operations inside blocks of ship superstructures. Website: www.carlosproject.eu
(Thanks to Félix Vidal)

The European project VALERI aims to bring the factory of the future to the aerospace industry by developing mobile, autonomous robots. These robots will help with the assembly of aerospace components and work hand-in-hand with humans on the production floor. Website: www.valeri-project.eu.
(Thanks to Jose Saenz)

3. NEW CODE RELEASES

Code associated with PR2 learning to assemble IKEA furniture:
http://people.cs.umass.edu/~sniekum/Code.html
http://wiki.ros.org/ar_track_alvar
http://wiki.ros.org/dmp
http://wiki.ros.org/ml_classifiers
(Thanks to Scott Niekum)

4. UPCOMING WORKSHOPS

The one-day workshop “From Safety to Comfort in the Humanoid Co-worker and Assistant” will be held at Humanoids 2013 in Atlanta, GA, USA on October 15. The workshop will focus on how to integrate necessary safety features while endowing robots with a model of our behavioral patterns and social habits. It is intended for researchers from different sub-fields of robotics, including but not limited to motion planning, machine learning, human-robot interaction, and perception. Abstract submission deadline for posters is September 20th (send email to Jim Mainprice jmainprice@wpi.edu).

The one-day workshop "Active Robot Vision" workshop will take place within the VISAPP conference http://www.visapp.visigrapp.org/ from 5 to 8 January 2014.
Visapp is a conference mainly related to computer vision, but the workshop will be more related to application of vision for solving problems in which a robot has to actively operate in the scene. Topics of interest include using vision to manipulate objects, move objects in order to remove occlusions, to recognize elements, such as pieces of furniture, in a room (sementic labeling), to detect people by using mobile robots or mixed (robot/fixed sensors) networks in order to cope with occlusions, and to exploit context for object and scene understanding
(Thanks to Domenico Bloisi)

5. PHD OPENINGS

The Dynamic Legged Systems Lab at the the Istituto Italiano di Tecnologia (IIT), an English language Institute, is seeking to appoint a well-motivated PhD student who will be involved in the *HyQ project* that aims to develop *versatile all-terrain legged robots with

manipulation capabilities*. The positions are fully funded, start in January 2014 and typically last 3 years. For more details on the topic and submission, visit http://www.iit.it/component/content/article/1618-hyqphdpositions.html
(Thanks to Claudio Semini)

A PhD position is available in the Intelligent Motion Lab (IML) at the School of Informatics and Computing, Indiana University at Bloomington, USA on an NSF-funded project on the topic of cooperative motion planning for human-controlled robots. The objective of the project is to develop next-generation intelligent user interfaces for mobile manipulators to enable humans to control complex tasks using simple input devices, such as mice or touch screens. To apply email your CV and a summary of your research interests to Kris Hauser at hauserk@indiana.edu and complete the online application form at http://www.soic.indiana.edu/prospective/grad-admit/apply/index.shtml. Apply by December 1 for full consideration.
(Thanks to Kris Hauser)

6. ANOUNCEMENTS

Kinova is launching a brand new robot arm platform this fall: MICO (http://kinovarobotics.com/products/mico-research-edition/). Budgetary accessible for most researchers at 19900 USD. See the video: http://www.youtube.com/watch?v=GA0iIGbTKIs
(Thanks to François Boucher)

Clearpath Robotics has recently partnered with Kinova Robotics to distribute the JACO Robot Arm - the arm easily mounts on the Husky Unmanned Ground Vehicle for mobile manipulation (http://www.clearpathrobotics.com/pr_clearpath-expands-into-manipulation/). Furthermore, WPI laid the foundation for the first ever ROS package (http://www.ros.org/news/2013/07/ros-node-for-jaco.html) that allows the arm to move autonomously (http://www.clearpathrobotics.com/wpi_aeroinaction/).
(Thanks to Meghan Hennessey)