robotics Swiss National Centre of Competence in Research

COMMUNITY NEWSLETTER

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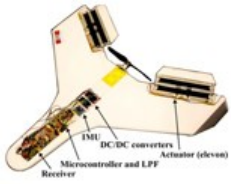
Public Version

NCCR NEWS

Drones Flex Their Artificial Muscles



LIS (EPFL) introduces a small fixed-wing drone with foldable artificial muscles, which is used for steering during flight and absorbing the impact of landing. This technology, developed within NCCR Robotics, could lead to fully foldable... Read more

New learning algorithm

ADRL (ETHZ) has developed a new learning algorithm, named ROCK*. ROCK* is a black-box function optimizer, which allows the algorithm to be easily implemented even by inexperienced users. ROCK* is most useful in optimization ...Read more

Registration now open

Full registration for the Cybathlon, a sporting event for disabled athletes using robotic assistive technologies is now open. The event will take place in Zurich, Switzerland on 8th October 2016. Read more

Connecting innovation to the market place

The head of Innovation Management from SR Technics, one of the world's leading providers of technical solutions to airlines, based in Zurich, visited the Technology Transfer... Read more

Thymio update

After several years of production and diffusion, the Thymio education robot has gone through a deep make-over, from the logo to the wiki website and the online shop where it is sold.... Read more

CONGRATULATIONS

Roger Gassert Associate Professor

The ETH Board appointed Roger Gassert as Associate Professor. Roger is deeply grateful for the encouragement and support he received from many NCCR Robotics members, and also for the support of the professorship... Read more

Fritz Kutter Award

Basil Huber, former Master student at RPG (UZH), won the 2014 Fritz Kutter Award for Industry Related Theses in Computer Science. His thesis was on High-Speed Pose Estimation using a Dynamic Vision Sensor.

NCCR Robotics Best Paper Award

This biennial award is chosen from papers written on NCCR Robotics work. This year's winners were selected from 17 submissions, all of very high quality. The Best Paper Awards Read more

ROBOTICS WORLD

Top News

- Google commits $1.36 billion for NASA facility, to house their robotics, space and flight technologies
- Touchdown! Rosetta's Philae makes first ever landing on a comet
- Artificial intelligence is a tool, not a threat
- Maker Club: Learn to code, design and build 3D printed robots!
- Are agricultural robots ready? 27 companies profiled

World events

- Humanoids (Nov 18-20)
- NRI PI (Nov 19-20)
- EPFL ENTREPRENEURSHIP DAYS (Nov 19-21)
- The Road Ahead (Nov 21)
- JSAI-isAI (Nov 23-25)
- euRobotics week (Nov 24-30)
- Curtin Robofair (Nov 30)
- RE.WORK CITIES SUMMIT (Dec 04-05)

External calls

- The Google Anita Borg Memorial Scholarship: EMEA
- Call for Projects: Swiss Games

External positions

- Six month internship with Swissnex India for students and recent graduates,Swiss citizens or residents
- Asst/assoc/full professor position in complex networks and systems, in the Informatics Division
- OCE Postdoctoral Fellowship - Modelling and Control of Multibody Dynamical Systems
- Tenure Track Faculty Position in Robotics
- CMU MechE is looking to hire new faculty in the areas of robotics and applied controls
- Postdoctoral Research Fellow in Service Robotics

Flyability

Flyability was amongst the semi-finalists for the indra international community award. The award, worth 1 million USD will announce the finalists mid December.

NCCR OPEN POSITIONS

Two PhD student openings

Two opportunities have arisen for two PhD studentships working with Davide Scaramuzza in the Robotics and Perception Group as part of several research projects sponsored by Google and NCCR Robotics. Read more

WE WILL BE AT:

Swiss Handicap

28-29 November 2014

Lucerne

Read more...

START UPS INSIDE SWISS ROBOTICS

Swiss Robotics

Swiss Robotics is an expanding and successful NCCR Robotics initiative that provides Swiss Start Ups with a unique opportunity to co-exhibit with NCCR Robotics at selected conferences and trade fairs. Discover some of these Start Ups:

F&P Personal Robotics

Robots get personal

Swiss based company F&P Robotics AG, Glattbrugg-Zurich, develops and produces light-weight robot arms that work together with humans in an intuitive manner. Rather than... Read more

NCCR PRESS COVERAGE

ARTE.TV - Balade en compagnie de robots inspirés des animaux

Read more

TED - A flying camera ...on a leash

TED talk from July 2014 is now available online. Read more

JDN - Les Robots agiles, la prochaine Grande Révolution Humaine

Read more

More press coverage available through NCCR Robotics website

NEW VIDEOS

Cybathlon - Leg - Film

Cybathlon - Powered Leg...

Lead Mechanical Design Engineer

Six month internships for Engineers

Cool links

by
Przemyslaw Mariusz Kornatowski LIS (EPFL)

Flying drone ambulance

Google Helps WWF Stop Wildlife Crime

Useful links

World Robotics -robot statistics and case studies

Press releases on industrial and service robots statistics

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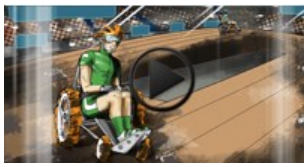
Cybathlon - Brain Computer...

Cybathlon - Muscle Stimulation...

Cybathlon - Powered Arm...

Cybathlon - Powered Wheelchairs

Cybathlon -Exoskeletons



Event-based, 6-DOF Pose...

WHO IS WHO ?

Simon Gallo

Simon, is 28 years old and was born in Rome Italy. He arrived in Switzerland during his middle school years. He obtained both his Bachelor and Master's in Microengineering from EPFL. He started his PhD thesis in December 2010 under... Read more

NEW MEMBERS

Kyuhwa Lee (CNBI)

Kyuhwa Lee is a post-doctoral researcher of CNBI (EPFL). His current research focuses on vision-based shared control for brain-controlled robots.

Alexander Winkler (ADRL)

Alexander is a PhD student at ADRL (ETHZ). After his master's degree from KIT he developed control algorithms for a quadruped robot (HyQ) at IIT. His current goal is to develop generic controllers capable of realizing various types of dynamic whole-body motions.

SELECTED NCCR PUBLICATIONS *

C. Alessandro, J. P. Carbajal and A. D'Avella, "A computational analysis of motor synergies by dynamic response decomposition," *Frontiers in Computational Neuroscience*, vol. 7, 2014.

S. Bonardi, M. Vespignani, R. Möckel, J. Van den Kieboom and S. Pouya, "Automatic generation of reduced CPG control networks for locomotion of arbitrary modular robot structures," *Robotics: Science and Systems*, Berkeley, USA, Jul., 2014.

D. Bontrager, D. Novak, R. Zimmermann, R. Riener and L. Marchal-Crespo, "Physiological noise cancellation in fNIRS using an adaptive filter based on mutual information," In *IEEE International Conference on Systems, Man, and Cybernetics*, San Diego, CA, USA, 2014.

C. Brandli, R. Berner, M. Yang, S.-C. Liu and T. Delbruck, “A 240x180 130dB 3us latency global shutter spatiotemporal vision sensor,” *IEEE Journal of Solid-State Circuits*, 2014.

C. Brandli, R. Berner, M. Yang, S. C. Liu and V. Villeneuva, “Live demonstration: The “DAVIS” Dynamic and Active-Pixel Vision Sensor,” In *IEEE International Symposium on Circuits and Systems (ISCAS*), Melbourne VIC, Australia, 2014.

C. Brandli, L. Muller and T. Delbruck, “Real-time, high-speed video decompression using a frame- and event-based DAVIS sensor,” In *IEEE International Symposium on Circuits and Systems (ISCAS)*, Melbourne VIC, Australia, 2014.

T. Delbruck, V. Villanueva and L. Longinotti, “Integration of dynamic vision sensor with inertial measurement unit for electronically stabilized event-based vision,” In *IEEE International Symposium on Circuits and Systems (ISCAS)*, Melbourne VIC, Australia, 2014.

F. Farshidian, M. Neunert and J. Buchli, “Learning of closed-loop motion control,” In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2014),* Chicago, Illinois, USA, 2014.

E. Mueggler, B. Huber and D. Scaramuzza, “Event-based, 6-DOF pose tracking for high-speed maneuvers,” In *International Conference on Intelligent Robots and Systems (IROS 2014)*, Chicago, Illinois,USA, 2014.

D. Novak and R. Riener, “A survey of sensor fusion methods in wearable robotics,” *Robotics and Autonomous Systems*, 2014.

J. Shintake, S. Rosset, B. E. Schubert, D. Floreano and H. Shea, “A foldable antagonistic actuator,” *IEEE/ASME Transactions on Mechatronics*, 2014.

A. Steiner, R. Moeckel, R. Thurer, D. Floreano and T. Delbruck, “1kHz 2D silicon retina motion sensor platform,” In *IEEE International Symposium on Circuits and Systems (ISCAS)*, Melbourne VIC, Australia, 2014.

M. Yang, S.-C. Liu and T. Delbruck, “Comparison of spike encoding schemes in asynchronous vision sensors: Modeling and design,” In *IEEE International Symposium on Circuits and Systems (ISCAS),* Melbourne VIC, Australia, 2014.

*Selected publications include publications which have been made known to the editor . All members are kindly encouraged to inform the management team of new pulbications.