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Swiss National
Centre of Competence
in Research

COMMUNITY NEWSLETTER

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Public Version

LATEST NCCR NEWS

NCCR Robotics @ICRA

This year we were at ICRA with 20 of our members presenting and 4 workshops and tutorials from A. Billard, M. Chli, D. Floreano and M. Hutter. We are also glad to announce that M. Hutter and R. Siegwart were among the recipients of the 2019 RAS Award and D. Scaramuzza's PhD student Z. Zhang won a Best Paper Award at the ICRA SLAM Benchmarking workshop. [Read more](#)



Top 100 Swiss Startup public voting open

Six of our NCCR Robotics spin-offs, ANYbotics, Flyability, Foldaway, intento, sensors and sevensense have been selected amongst the candidates from which the TOP 100 most innovative and promising Swiss startups will be selected. Public voting will run in parallel to expert ranking. We encourage our readers to vote for the most innovative and promising startup!



MyoSwiss at Zurich Marathon & Wings for Life

NCCR Robotics spin-off MyoSwiss participated in both this year's Zurich Marathon with Michael and in Wings for life with Lorenz. [Read more](#) about the MyoSwiss Zurich Marathon and Wings for life participants and their experiences.



NEW GRANT: Invited women keynote speaker

This new NCCR Robotics initiative aims to encourage conference organizers in Switzerland, to invite women keynote speakers. The grants will be attributed on a «first come, first served basis» and can be of up to 2,500 CHF per invited speaker. [Read more](#)



New NCCR Robotics Equal Opportunities information leaflet

The NCCR Robotics Equal Opportunities leaflet includes information on our different equal opportunities initiatives, including courses for girls, masters scholarships for women and support systems. [Read more](#)



Marchal-Crespo lab's new name

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- New NCCR Robotics Equal Opportunities information leaflet
- Marchal-Crespo lab's new name
- Cybathlon 2020 this time next year!
- Congratulations: Iason Batzanouliz; IEEE RAL Best Paper Award finalist; Dronistics; sensors; Autonomyo; Daniel Gehrig
- NCCR Robotics Open Positions: Flyability
- NCCR Robotics calls: Summer School on Rehabilitation Robotics; Engineering PhD Summit
- We will be at...
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ROBOTICS WORLD

Top News

- Bringing human-like reasoning to driverless car navigation
- How to tell whether machine-learning systems are robust enough for the real world
- An updated round up of ethical principles of robotics and AI
- The social animals that are inspiring new behaviours for robot swarms
- Laying the ground for robotic strategies in environmental protection

World events

- ICRAS (1-3 June)
- Robotics Summit & Expo (5-6 June)
- VLSI (9-14 June)
- World Conference on Robotics and Artificial Intelligence (10-12 June)

The Motor Learning and Neurorehabilitation laboratory is an interdisciplinary group that gathers the knowledge and expertise of mechanical and biomedical engineers, computer scientists, neuroscientists and psychologists. [Read more](#)

CYBATHLON 2020 this time next year!

On 2-3 May 2020, Zurich will host the CYBATHLON for the second time. Teams from all around the world are currently preparing to face the new challenges in the six disciplines expected for this second edition. Meet the participating teams from all continents.



- Robotics Science and Systems (June 22-26)
- RSS (23 June)
- Hamlyn Symposium on Medical Robotics (23-26 June)
- MARSS (1-5 July)
- RoboCup (2-8 July)
- Neuromodulation (5 July)
- AIM (8-12 July)
- World Haptics Conference (9-12 July)

CONGRATULATIONS

Iason Batzanouliz thesis defense

Iason (Billard lab) successfully defended his thesis entitled "*Improving the arm-hand coordination in neuroprosthetics control with prior information from muscle activity*". He will continue as a post-doctoral researcher in Billard lab.



IEEE RAL Best Paper Award finalist

The paper "Ultimate SLAM? Combining Events, Images, and IMU for Robust Visual SLAM in HDR and High Speed Scenarios" was nominated finalist for the 2018 IEEE Robotics and Automation Letters Best Paper Award. Ultimate SLAM was in the top 3 out of 520 papers published by RAL in 2018.



Dronistics Venturekick Startup Program & Venture Forward

Dronistics, the NCCR Robotics Spin-off which develops drones and software for person-to-person last-centimetre aerial deliveries, has qualified in the first-stage funding of Venturekick Startup Program and are in the Hardware Finalist of Venture Forward.



Fast Track to Innovation funding

NCCR Robotics spin-off SENSARS, which restores functionality of upper and lower limb amputees as well as those that had nerve-damage, was chosen among 227 European projects to receive Fast Track to Innovation funding from the European Commission [Read more](#)



Autonomyo receives industrial grant

Ijspeert lab and REHAssist have received an industrial grant from Faulhaber Mini-motor. The aim involves research and development of control strategies to assist walking and balance using the crutch-less lower limb exoskeleton Autonomyo for activities of daily living.



Daniel Gehrig wins ETH Medal for Best Master thesis

Daniel Gehrig (Scaramuzza lab) won the ETH Medal for his outstanding Master thesis. His ECCV'18 paper based on his Master thesis was entitled

External calls

- 2019 American Society of Mechanical Engineers Student Mechanism & Robot Design Competition
- EXO Berlin 2019
- Planning, Perception and Navigation for Intelligent Vehicles
- SPS Automation
- SSNR Summer School on Neurorehabilitation

Start-up corner

Please find the following links related to start-up support. If you would like to promote your events through our channel, please contact us nccr-robotics@epfl.ch

- ESA BIC Switzerland Info Event in Lausanne
- Venture Leaders Fintech, Hong Kong For Swiss startups ready to take over the world
- Voting is open for the Top 100

Equal Opportunities Corner

- Project Staff Diversity (40 - 50%)

External positions

- PhD student position in "Intelligent agents that learn from their past experiences" (Chalmers University of Technology)
- Post Doc in Adaptable Growing Soft Robotics (iit)
- Research Fellow in AI/ML for Agri Robotics (University of Lincoln)
- Computer Vision Internship (MOBOT)
- Robotics Engineer (MOBOT)
- Postdoctoral Research Assistant (Queen Mary University of London)
- Research Associate in Soft Robots for Medical and Surgical Applications (University of Sheffield)

NCCR Robotics Director

Prof. Dario Floreano



NCCR ROBOTICS OPEN POSITIONS

Software Engineer

Do you want to deep dive in the fast-growing industry of drones and get a rewarding experience within a dynamic start-up environment? NCCR Robotics spin-off Flyability is looking for a software engineer. [Read more](#)



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NCCR ROBOTICS CALLS

Summer School on Rehabilitation Robotics

The Summer School's (7-13 July) topics include: Therapy Robotics, Assistive Robotics, Virtual Reality, Neuroprosthetics, Neurorehabilitation and Motor Learning. Undergraduate and graduate students expected from Shanghai and Switzerland. Travel and accommodation costs can be reimbursed. [Read more](#)



Engineering PhD Summit

The EPFL Intelligent Systems Engineering PhD Summit targets final year PhD students from institutions worldwide who will be selected on a competitive basis, to compete for a PhD Summit Prize (travel & accommodation funds available for selected candidates). Workshop dates: 2-4 October. Application deadline: 31st May. [Read more](#)



2019 EVENT UPDATE - WE WILL BE AT:

CVPR 2019 Workshop on Event-based Vision

17 June 2019

California

[Read more](#)



ETH Zurich Robotics Summer School

27 June - 01 July 2019

Zurich

[Read more](#)



ARCHE

01-06 July 2019

Swiss Military Rescue Troops

[Read more](#)



Summer School on Rehabilitation Robotics

07-13 July 2019

Shanghai

[Read more](#)



La Suisse, home of drones

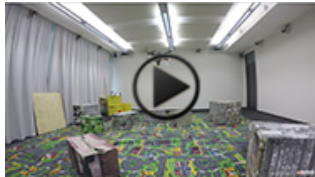
"Après les montres et le chocolat, les drones seront ils les nouveaux fleurons de la technologie helvétique? Cette industrie de pointe se développe très rapidement en Suisse." [Read more](#) (FR)



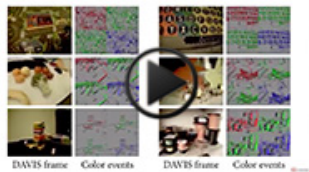
More press coverage available through [NCCR Robotics website](#).

NEW VIDEOS

Ultimate SLAM? Combining Events, Images, and IMU for Visual SLAM in HDR and High-Speed Scenarios



CED: Color Event Camera Dataset (CVPR-W'19)



Events-to-Video: Bringing Modern Computer Vision to Event Cameras (CVPR'19)



MyoSwiss



Elios 2 - Intuitive indoor inspection drone for confined spaces



NEW MEMBERS

Mohamed Bouri (Ijspeert & Micera lab)

Dr. Mohamed leads the research group REHAssist (Rehabilitation and Assistive Robotics) and is affiliated to Ijspeert and Micera Labs. His research is mainly related to lower limbs rehabilitation and powered exoskeletons.



Jessica Gantenbein (Gassert lab)

Jessica is a PhD student. Her main interest lies on the investigation of different modalities for intention detection suitable for real-life application of assistive technologies and their functional benefits.



DEPARTING MEMBERS

Eduardo Feo (Gambardella lab)

Campus as a Postdoctoral Associate. He will continue his research in Multi-robot systems working on a Qatari National Projects on Marine Robotics and independent research on self-driving vehicles.



SELECTED NCCR ROBOTICS PUBLICATIONS *

G. Gallego, T. Delbruck, G. Orchard, C. Bartolozzi, B. Taba, A. Censi, S. Leutenegger, A. Davison, J. Conradt, K. Daniilidis, D. Scaramuzza "Event-based Vision: A Survey" arXiv, 2019.

G. Gallego, M. Gehrig, D. Scaramuzza "*Focus Is All You Need: Loss Functions for Event-based Vision*" IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Long Beach, 2019.

A. E. Hirsch, L. M. Dejace, H. O. Michaud, S. Lacour "*Harnessing the Rheological Properties of Liquid Metals To Shape Soft Electronic Conductors for Wearable Applications*" Accounts of Chemical Research, 52, 3, 534–544 Feb 04 2019.

F. Liebmann, S. Roner, M. von Atzigen, D. Scaramuzza, R. Sutter, J. Snedeker, M. Farshad, P. Furnstahl "*Pedicle screw navigation using surface digitization on the Microsoft HoloLens*" Springer International Journal of Computer Assisted Radiology and Surgery, 2019.

H. Rebecq, R. Ranftl, V. Koltun, D. Scaramuzza "*Events-to-Video: Bringing Modern Computer Vision to Event Cameras*" IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Long Beach, 2019.

M. A. Robertson, L. M. Dejace, S. Lacour, J. Paik "*Bi-Modal Control of Vacuum-Powered Soft Pneumatic Actuators with Embedded Liquid Metal-Based Strain Sensitive Skin*" IEEE International Conference on Soft Robotics Robosoft, Seoul, South Korea, 2019.

C. Scheerlinck, H. Rebecq, T. Stoffregen, N. Barnes, R. Mahony, D. Scaramuzza "*CED: Color Event Camera Dataset*" IEEE Conference on Computer Vision and Pattern Recognition Workshops (CVPRW), 2019.

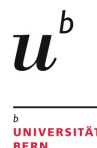
Y. Yang, A. Loquercio, D. Scaramuzza, S. Soatto "*Unsupervised Moving Object Detection via Contextual Information Separation*" IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Long Beach, 2019.

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

NCCR Robotics



The Swiss National Centre of Competence in Robotics (NCCR Robotics) is a federally funded programme bringing together robotics laboratories from EPFL, ETH Zurich, University of Zurich, IDSIA and UNIBE to work on wearable, rescue and educational robots.



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