

# COMMUNITY NEWSLETTER

## LATEST NCCR NEWS

### EO Career Development award

NCCR Robotics has launched a new award for career development, aimed at women that are pursuing a research career in robotics. The nature of the activities these grants aim to support is flexible and focuses on female researcher empowerment in a broad sense. This is part of NCCR Robotics ongoing commitment to tackle the leaky pipeline and help increase the number of female students in robotics-related fields, enhance career development and the recruitment of female PhD students and researchers, and enhance awareness on gender issues and the impact of unconscious bias. The call will open yearlong and we will accept applications for activities starting from May 15th 2020 onwards. [Read more](#)



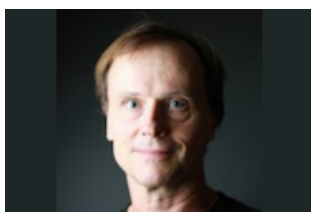
### CYBATHLON@school Home Challenge

CYBATHLON@school seeks to make children, young people, and teachers more aware of the everyday challenges faced by those with disabilities. As the schools were closed, the team came up with an additional concept: the CYBATHLON@school Home Challenge. The modules are aligned with curriculum 21 and can normally be booked for double lessons in various STEM subjects. [Read More](#) on how to include the CYBATHLON@school Home Challenge into school lessons.



### Rise of the event camera

Tobi Delbruck has written an [overview](#) for EE Times of the evolution and future potential of event cameras, a new type of sensor that is acquiring more and more importance for robotics, including the NCCR Robotics research programme, thank to the collaboration between his and Davide Scaramuzza's lab. [Read more.](#)



### Exchange programmes

Three recent winners of the [NCCR Robotics PhD/Postdoc exchange programme](#) share their experience: [Jan Carius](#) from Hutter's lab spent 3 months at Stanford University; [Thomas Gargot](#) and [Soheil Kianzad](#) spent 3 and 4 months respectively at the Dillenbourg lab.



### ICRA 2020

The [IEEE International Conference on Robotics and Automation](#) kicks off on 31 May as a virtual event. Plenaries and keynotes will be live streamed until June 15, while prerecorded paper presentations will be available until 31 August, with dedicated Slack



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- NCCR Robotics open positions: Floreano lab, Sevensesense
- NCCR Robotics calls: Frontiers in AI
- Press coverage
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## ROBOTICS WORLD

### Top News

- [Robotics transactions slow down in April](#)
- [Microrobots for delivery in blood flow](#)
- [High-speed robot arm hands off package to drone](#)
- [Post-Covid19 Economy: "Robots create jobs"](#)

### External calls

- [TERRInet open call \(deadline 31 May\)](#)
- [ICMI 2020 call for papers \(extending deadline June 5\)](#)
- [IEEE RAM special issue on Emerging paradigms for robotic manipulation](#)

### 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](mailto:nccr-robotics@epfl.ch)

- [Six Swiss startup investors' thoughts on fundraising during Covid-19 - A Venturelab webinar on the state of how to navigate the pandemic.](#)
- [Startup training on Business creation in Engineering.](#) A training module on all steps, from preparing a pitch to securing funding. Several dates starting from June 3.

channels for discussion. Several NCCR Robotics members are featured, including Aude Billard conducting a [workshop](#) on 31 May, and many of our labs presenting [papers](#).

### Luca Gambardella

After 25 years, Luca has left the direction of IDSIA in Lugano. He will continue to be a member as a professor at Università della Svizzera Italiana, where he has been appointed full professor at the Faculty of Informatics. There is an [opening](#) for the position of IDSIA director, currently held at interim by Prof. Andrea Rizzoli.



## CONGRATULATIONS

### Laura Marchal Crespo

After many years at the University of Bern as SNSF Professor at the Faculty of Medicine, Laura has accepted a position at Delft University of Technology in the Netherlands, where she will join the department of Cognitive Robotics as Associate Professor starting from this Fall. Her involvement in NCCR Robotics will not be affected, as Laura will maintain a 20% position at UniBern and her group will keep working on the Wearable Robotics Grand Challenge.



### Newly accepted paper

The paper "A morphing cargo drone for safe flight in proximity of humans", by Przemyslaw Mariusz Kornatowski, Mir Feroskhan, William Stewart and Dario Floreano, has been accepted for publication in IEEE Robotics and Automation Letter in June.



### PhD Defense

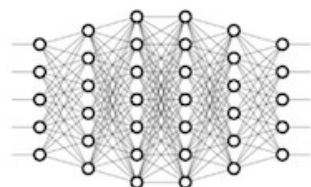
Boris Gromov ([Gambardella Lab](#)) has successfully defended his PhD thesis entitled "Human-robot interaction with pointing gestures: intuitive interaction between co-located humans and robots" on 18 March.



## NCCR ROBOTICS OPEN POSITIONS

### Fellowship in machine learning for soft robotics

The Floreano lab invites applications for a [postdoctoral fellowship in machine learning applied to soft robotics](#). The focus is on developing methods for the co-design of control, morphology, and materials of soft robots, such as soft multi-fingered grippers, tensegrity robots, and avian-inspired robots. Areas of interest include deep neural learning, evolutionary algorithms, and biologically inspired learning methods. Applicants should send an email to [dario.floreano@epfl.ch](mailto:dario.floreano@epfl.ch) with a CV, project portfolio, names and contacts of three references, and a full publication list.



### Opportunities at Sevensense

The NCCR Robotics spin-off offers several positions, including engineers (mechanical, DevOps, machine learning, electrical) and software developers (C+). [Read more](#)



## NCCR ROBOTICS CALLS

· [Advertise jobs for free on ETH Get Hired Platform](#) - Need new talent to boost your team? ETH Get Hired offer a free job posting to all Swiss startups. Just [register](#) - the cost waiver for the first ad will be automatically applied. Valid until October 2020

### Equal Opportunities Corner

· [Are women publishing less during the pandemic? Here's what the data say](#) - an analysis suggest female researchers' careers are being more heavily impacted by the effects of the lockdown.

· [Addressing the gender bias in Artificial Intelligence and Automation](#) - Focus on an often neglected dimension of AI ethics (from Open Global Rights)

### External positions

- [Postdoc position at CEA in Robotics and Autonomous Systems](#)
- [Assistant professor and postdoc position in computational neuroscience and developmental robotics at the University of Tokyo](#)
- [Postdoctoral research associate in HRI, Texas Tech University](#)

### NCCR Robotics

#### Director

Prof. Dario Floreano (EPFL)

#### Co-director

Prof. Robert Riener (ETH Zurich)

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### IMPRESSUM

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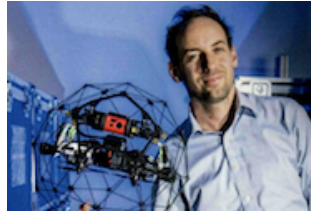
## Papers on soft wearable systems

Frontiers in Robotics and AI has opened a call for papers on "Actuation, Sensing and Control Systems for Soft Wearable Assistive Devices". Michele Xiloyannis, from the Riener lab, is among the topic editors.

## PRESS COVERAGE

### Flyability's path to growth

In an interview with the magazin "Bilan" Patrick Thévoz, CEO of the NCCR Robotics spin-off, discusses the impact of Covid-19 on the business and the company's future plans. [Read more](#)



### Robots against the virus

RTS Rumantsch Radio aired a programme on 24 May about the use of robotics for tackling the Covid-19 emergency, with a short interview to NCCR Robotics Director Dario Floreano. [Listen to the episode](#)



### An exoskeleton for backcountry skiing

The newspaper 24 Heures tells the story of how the designers of the NCCR Robotics spin-off TWIICE adapted their exoskeleton so that it allowed a disabled skier to strap on the climbing skins once again. [Read more](#)



### Cover story in "Drones"

The recent Science Robotics publication by the Scaramuzza lab, on drones that can dodge flying obstacles, is featured in a 2-page story and on the cover of the latest issue of the German-language magazine "Drones". [Read more](#)



### Microrobots in the NYT

The New York Times ran a story - actually written by a young student for a writing contest - about ant-inspired small robots, also quoting Jamie Paik and her work at EPFL. [Read more](#)



### Autonomous drones documentary

SRF and 3Sat have produced a documentary (in German only) demonstrating how the work of the Scaramuzza lab on autonomous drones can be used for search and rescue (the video starts at time 15:50). [Read more](#)



### Francesco Mondada's profile

The leader of our Educational Robotics Grand Challenge was interviewed for SwissInfo, discussing Thymio, Khepera and other robots, as well as the role of technology in education. [Read more](#)



### On-demand robotics furniture

IEEE Spectrum reports on the Ijspeert's lab Roombots, modular robots that can move around and latch onto each other, can collaboratively form chairs, tables, or whatever else. [Read more](#)



### Drones for agriculture



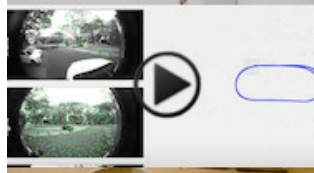
SwissInfo has published a feature story - translated in various languages - about the use of flying robots for agriculture in Switzerland. The story mentions the work of NCCR Robotics' Roland Siegwart at ETH Zurich. [Read more](#)



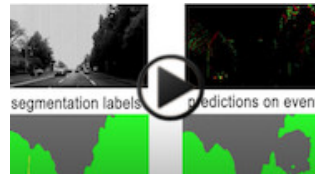
More [press coverage](#) available through [NCCR Robotics website](#).

## NEW VIDEOS

### Redesigning SLAM for arbitrary multi-camera systems



### Video to events: recycling video datasets for event cameras



### Testing NASA's Perseverance rover



### CYBATHLON 2020 Official Trailer



## SELECTED NCCR ROBOTICS PUBLICATIONS \*

D. Gehrig, M. Gehrig, J. Hidalgo-Carrio, D. Scaramuzza, "Video to Events: Recycling Video Dataset for Event Cameras", *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Seattle, 2020.

M. Gehrig, S. Shrestha, D. Mouritzen, D. Scaramuzza, "Event-Based Angular Velocity Regression with Spiking Networks", *IEEE International Conference on Robotics and Automation (ICRA)*, 2020.

P. M. Kornatowski, M. Feroskhan, W. Stewart, and D. Floreano, "Downside Up: Rethinking parcel position for aerial delivery", *IEEE Robotics and Automation Letters (RA-L)*, 2020

P. M. Kornatowski, M. Feroskhan, W. Stewart, and D. Floreano, "A morphing cargo drone for safe flight in proximity of humans", *IEEE Robotics and Automation Letters (RA-L) and IROS*, 2020.

J. Kuo, M. Muglikar, Z. Zhang, D. Scaramuzza, "Redesigning SLAM for Arbitrary Multi-Camera Systems", *IEEE International Conference on Robotics and Automation (ICRA)*, 2020.

N. Messikommer, D. Gehrig, A. Loquercio, and D. Scaramuzza, "Event-based Asynchronous Sparse Convolutional Networks", *ArXiv*, 2020.

M. Muglikar, Z. Zhang, D. Scaramuzza, "Voxel Map for Visual SLAM", *IEEE International Conference on Robotics and Automation (ICRA)*, 2020.

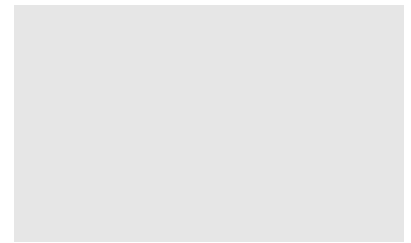
B. Nagy, P. Foehn, and D. Scaramuzza, "Faster than FAST: GPU-Accelerated Frontend for High-Speed VIO", *ArXiv*, 2020.

M. A. Robertson, O.C. Kara, J. Paik, "Soft pneumatic actuator-driven origami-inspired modular robotic 'pneumagami'", *International Journal of Robotics Research*, 2020.

D. Scaramuzza, Z. Zhang, "Visual-Inertial Odometry of Aerial Robots", *Encyclopedia of Robotics*, Springer, 2020.

R. Sugimoto, M. Gehrig, D. Brescianini, D. Scaramuzza, "Towards Low-Latency High-Bandwidth Control of Quadrotors using Event Cameras", *IEEE International Conference on Robotics and Automation (ICRA)*, 2020.

\* Selected publications include those that have been notified to the [editor](#). All members are kindly encouraged to inform the management team of new publications. [Read all 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](#), [UNIBE](#) and [Empa](#) to work on wearable, rescue and educational robots.



The National Centres of Competence in Research are a research instrument of the Swiss National Science Foundation.

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