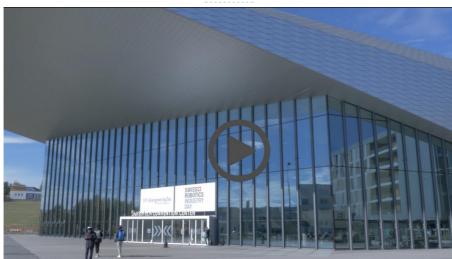
# Issue 46 December 2018 Public Version

# COMMUNITY NEWSLETTER

#### **SWISS ROBOTICS INDUSTRY DAY**





The day unveiled a full picture of the future of Robotics (AGEFI\*)

The Swiss Robotics Industry Day took place on the 1st of November 2018 at the SwissTech Convention Center in Lausanne, bringing together research and industry for the fourth consecutive time. The growing number of participants and sponsors this year confirm the increasing



popularity of the event, with just over 300 registrations and 5 sponsors supporting this opportunity for the industry to gain privileged access to new and emerging technologies.

We would like to thank all the participants: guests, press, speakers and exhibitors for making the event a success. We are looking forward to welcoming you again for next year's edition in Lausanne on November 5th 2019.

**Dario Floreano - NCCR Robotics Director** 

**Swiss Robotics Industry Day Press Coverage** 





We wish you a relaxing year-end holiday and all the best for 2019! Your Infoletter will be back in February next year.

(\*AGEFI, 02 November 2018, translated from FR) "La journée a donné à voir un panorama complet de l'avenir de la robotique"



# Administration & Communication Officer



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@HUBweek

Prof. Radhika Nagpal at **EPFL** 

Congratulations:

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Robert Riener

Scaramuzza Lab

**Dronistics** 

Flyability

Sevensense

Calls: Workshop on Personal Robots for **Exercising and Coaching** 

Open Positions:

Billard Lab

ETH Zürich

Scaramuzza Lab

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New Videos

New Members

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### **ROBOTICS WORLD**

#### **Top News**

Robot makes world-first baby coral delivery to **Great Barrier Reef** 

A new drone can change its shape to fly through a narrow gap

Drones and satellite imaging to make forest protection pay

3Q: Aleksander Madry on building trustworthy artificial intelligence

Soft actor critic – Deep reinforcement learning with real-world robots

#### World events

Manufacturing World Japan 2019 (6-8 Feb)

Forward (7 Feb)

HRI 2019 (11-14 March)

Joëlle Mottier has left her position as Administration & Communication Officer. We would like to thank her for her work and great contribution to NCCR Robotics.

### Administration & Education Officer

We welcome Ana Caldas to the NCCR Robotics Management Team. Ana started mid-December as Administration & Education Officer.

#### NCCR Robotics @HUBweek

Swissnex Boston gathered a selection of some of the most exciting drone exhibitors early October at Aerial Futures: The Drone Frontier and several NCCR Robotics projects participated. Read more

### Prof. Radhika Nagpal at EPFL

Prof. Radhika Nagpal (Harvard University) joined women researchers at EPFL early last month, in an engaging discussion about gender and diversity in academia. It was a great opportunity for participants to ask questions about women in science and gender equality.





# CONGRATULATIONS

### Jamie Paik named Associate Professor

NCCR Robotics Professor Jamie Paik "has established an international reputation through her innovative approaches to soft robotics and reconfigurable robotic systems." Read more



# Robert Riener awarded Honorary Doctorate by the University of Basel

Earlier this month, our Co-Director Prof. Robert Riener (ETH Zurich), was "honoured for his pioneering research and contribution in the area of movement and interaction"... Read more



#### Best Systems Paper Award at CoRL

"Deep Drone Racing: Learning Agile Flight in Dynamic Environments" from Scaramuzza lab, won the Best Systems Paper Award at the Conference on Robotic Learning (CoRL)



#### IMD Startup Competition winners

NCCR Robotics spin-off Dronistics is amongst the 27 winners of the IMD Startup Competition. Dronisitics also has a brand new logo and promotional leaflet, they will be present at CES2019, where they will show their last-cm drone delivery system.



# Flyability raises \$11 million to boost indoor autonomous inspection

NCCR Robotics Spin-off Flyability, "announced the closing of an \$11 million Series B financing round. With previous funding, the company has now raised a total of \$16 million since its..." Read more



### Sevensense Robotics joins venture kick

NCCR Robotics spin-off Sevensense joined the stage 1 Venture Kick. Each project was awarded 10,000 CHF. Read more



# Computer Vision Conference (CVC) (25-26

#### External calls

Robohub Call for robot holiday videos 2018 Istituto Svizzero, Roma Calling (D/L 4 Feb) RobotCraft 2019 call for applications (D/L 18

International Conference of Robotics in Education (D/L 11 Jan)

MARSS (D/L 15 Feb)

March)

The Swiss contest bugnplay is now open to students and has money prizes. This contest is not about academic excellence, but creativity in projects, installations. robots for the under 25 vears

# Equal **Opportunities** corner

satw all day conference 29th January 2019 in Bern in French: Femmes dans la Technique et l'Informatique – exploiter les potentiels

Conference by Prof Frank Dobbin (professor of Sociology at Harvard) (20 Feb at EPFL) Which **Diversity Initiatives Work?** Thirty Years of Evidence from U.S. Employers

#### Start-up corner

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

Venturelab- Intensive course for ICT Startups

How to Set Up Your Company for Acquisition

# **External** positions

PhD - Robot Learning from Humans (Bosch) Research Assistant/Associate in

**Automatic Affect Analysis** for Human-Robot Interaction (University of Cambridge)

Post-doctoral Fellow position in Soft Robotics



# Workshop on Personal Robots for **Exercising and Coaching**

Call for papers for PREC workshop at ACM/IEEE International Conference on Human-Robot Interaction. Submission deadline: January 10th. Read more





# NCCR ROBOTICS OPEN POSITIONS

# Researcher to work on a joint project between Billard lab and Samsung

Billard Lab (EPFL) is looking for a researcher to work on a joint project between LASA and Samsung. The project requires to develop a safe and compliant robot that can interact with humans. Read more



### 2 postdoctoral fellows

Billard Lab (EPFL) is seeking 2 postdoctoral fellows to participate in research projects that develop novel approaches from machine learning and impedance control to enable safe and highly adaptive manipulation of fragile objects when in direct contact with humans. Read more



# **Tenure Track Assistant Professor of Robotics**

The Department of Mechanical and Process Engineering at ETH Zurich invites applications for a Tenure Track Assistant Professor of Robotics. Application deadline: February 1, 2019. Read more



# Several openings at both PhD and Postdoctoral levels

Scaramuzza lab has several openings at both PhD and Postdoctoral levels in Robotics, Machine Learning, Reinforcement Learning, Control, Computer Vision, Event Cameras, and beyond. Read more





#### 2018 EVENT UPDATE - WE WILL BE AT:

#### **CES2019**

08-11 January 2019

Las Vegas

Read more



# GDI - European Trend Day

13th March 2019

Rüschlikon

Read more



### **ERF**

20-22 March 2019

**Bucharest** 

Read more



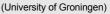
### Hannover Messe

1-5 April 2019

Hannover

Read more





Research Assistant / Associate (PostDoc) in Aerial Robotics (Imperial College London)

Motion Systems Expert maxon innovation Lab -

Research Fellow Posts in Space Robotics & Al (University of Surrey)

#### **NCCR Robotics** Director

Prof. Dario Floreano

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Jan Kerschgens

#### **IMPRESSUM**

**Publisher NCCR** Robotics Management Team Editor Mayra Lirot

**Contributing Editors** Jan Kerschgens / Ana

Caldas Web Editing Mayra Lirot Design

Alternative Communication SA / Pascal Briod

# PRESS COVERAGE

# Spinal implant helps three paralysed men walk again

"Three paralysed men, who were told they would spend the rest of their lives in a wheelchair, are able to walk again thanks to doctors in Switzerland." Read more

# Paralysed men can stand and walk after electrical stimulation

"Two patients can walk short distances on crutches after having pulses beamed into their spines." Read more

# Paralysed walk again after electrical stimulation regrows damaged nerves

"Paralysed people are walking again after scientists used electrical stimulation to regrow damaged nerves, with patients able to turn the treatment on..." Read more

# Pour la première fois, trois paraplégiques ont marché sans stimulation électrique

"Des chercheurs suisses ont réalisé la prouesse de faire marcher des"... Read more or English translation

# U.S.and Switzerland explore deals on drones

"On this edition of our Tech Talk/swissnex series, we explore the efforts of swissnex Boston to collaborate with the U.S. in the area of drones with project..." Read more

# How new Swiss drone technology could help firefighters in the future

"The devastation fire can cause has been made clear once again as California experiences yet another series of deadly wildfires. So how can technology ..." Read more

# Zu Besuch im «Drohnen-Valley» bei Lausanne

"Nur ein Spielzeug? Nein. Die Entwicklung unbemannter Luftfahrzeuge ist ein Geschäft der Zukunft." Read more or English translation

# North Sea Deployment Shows How Quadruped Robots Can Be Commercially Useful

"ANYmal spends a week doing inspection tasks on an offshore platform." Read more

More press coverage available through NCCR Robotics website

# NEW VIDEOS

**Swiss Robotics Industry Day 2018** 



Official Trailer: Get ready for CYBATHLON 2020



**NEWS** 



The Telegraph

News | Science

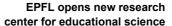
Le Parisien













World's First Autonomous Offshore Robot – ANYmal







**Beauty and the Beast: Optimal Methods Meet** Learning for Drone Racing



ESIM: our open source event camera simulator



IROS 2018 Autonomous Drone Race: Optimal **Methods meet Deep Learning for Autonomous Drone Racing** 



**Deep Drone Racing: Learning** Agile Flight in Dynamic **Environments** 



The Foldable Drone: A Morphing Quadrotor that can Squeeze and Fly



**PAMPC: Perception-Aware Model Predictive Control for** Quadrotors





# NEW MEMBERS

#### Hala Khodr (Dillenbourg lab)

Hala is a PhD student at Dillenbourg Lab (EPFL) studying human-swarm interaction. Her research focuses on tangible swarm robots and their integration in classrooms for enhancing the learning experience.





#### **SELECTED NCCR ROBOTICS PUBLICATIONS \***

D. Falanga, K. Kleber, S. Mintchev, D. Floreano, D. Scaramuzza "The Foldable Drone: A Morphing Quadrotor that can Squeeze and Fly" IEEE Robotics and Automation Letters (RA-L), 2018.

I. Iturrate; M. Pereira; J. del R. Millán, "Closed-loop electrical neurostimulation: Challenges and opportunities" Current Opinion in Biomedical Engineering, 8, 28-37 Year: Dec 01 2018.

S. Martin, I. Iturrate, R. Chavarriaga, R. Leeb, A. Sobolewski, A. Li, J. Zaldivar, L. Peciu-Florianu, E. Pralong, M. Castro-Jiménez, D. Benninger, F. Vingerhoets, R. Knight, J. Bloch, J. Del R. MilláN, "Differential contributions of subthalamic beta rhythms and 1/f broadband activity to motor symptoms in Parkinson's disease" in npj Parkinson's Disease, 4, 1, 32 Year: Nov 05 2018.

H. Rebecq, D. Gehrig, D. Scaramuzza "ESIM: an Open Event Camera Simulator" Conference on Robot Learning (CoRL), Zurich, 2018.

M. Yao, C. Belke, H. Cui, J. Paik, "A reconfiguration strategy for modular robots using origami folding" The International Journal of Robotics Research, Dec 05 2018.

M. Yao, X. Xiao, C. Belke, H. Cui, J. Paik, "Optimal Distribution of Active Modules in Modular Robots" Journal of Mechanisms and Robotics Year: Nov 05 2018.

\*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

Leading House

Co-leading House













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