

Call for contributions
(DEVL-HR-Aml) ECAL'2017 Workshop

Developmental learning and representation building in human-robots and ambient intelligence systems

This workshop is organized as a joint event with [ECAL2017](#) Conference to be held in Lyon, France, 4-8 September 2017.

The aim of the workshop is to bring together researchers interested in developmental learning and bio-inspired approaches for artificial cognitive systems and practitioners from digital industries, robotics and Ambient Intelligence systems, to exchange their knowledge and experiences regarding the question of building representations in human-robots and Ambient Intelligence Systems. The workshop's aim is also to cross fertilize the exchanges between participants from different disciplines and sectors, around the progress of the state of the art in foundational theories and their potential transfer and deployment in applications in real world settings, with robots and Ambient Intelligence Systems. A particular attention will be given to steer the program towards bridging the gap between theory and practice. This event will be backed by the ANR Labcom project [Behaviors.ai](#) (Project of a joint laboratory between the [LIRIS-CNRS](#) laboratory and the [Hoomano](#) company). The aim of Behaviors.ai is to investigate new approaches of artificial intelligence, and more precisely developmental learning, to create new ways to interact with social robots to make them more empathetic and able to continuously learn as they interact in "real life" environments.

The focus of the workshop will be on the issue of autonomous "Representation building", in artificial cognitive systems, through internal mechanisms, following bio-inspired approaches and developmental learning approaches, especially considering hybrid systems involving humans and artificial systems like robots or ambient intelligence systems.

The workshop topics of interest are (non-exhaustive list):

- Co-construction of meaning between human artificial agents (robots/ambient system)
- Abstracting representations from sensorimotor patterns to higher level cognitive capacities;
- Bio-Inspired mechanisms for cognitive self-development;
- Potential applications of developmental theories in robotics and ambient artificial intelligent systems
- Knowledge transfer, transfer learning, representation sharing ..
- Evolutionary approaches and mechanisms for cognitive development in artificial systems
- ..

The program of the workshop will contain:

- Sessions with a selection of presentations from submitted papers and invited papers addressing targeted topics.
- A session dedicated to industrial presentations
- A demonstration session: A selection of demos from submitted contributions to a call for demos and invited demos addressing targeted topics.
- A panel session involving participants from Industry and Academia

Scientific Organization Committee

- [Salima Hassas](#), LIRIS-CNRS University of Lyon 1, France (**Contact: *salima dot hassas at univ-lyon1 dot fr***)
- [Amélie Cordier](#), Hoomano, France
- [Stephane Doncieux](#), ESIR-UPMC, France
- [Amal El Fallah Seghrouchni](#), LIP6, UPMC, France
- [Frank Guerin](#), University of Aberdeen, Scotland (UK)
- [Bipin Indurkha](#), AGH University, Poland
- [Leonardo Lana De Carvalho](#), FIH / UFVJM, Brazil
- [Mathieu Lefort](#), LIRIS-CNRS University of Lyon 1, France
- [Georgi Stojanov](#), American University of Paris, France

Important Dates

- Abstract submission : June 10, 2017
- Full Paper or Demo Submission : June 15, 2017
- Notification : July 20, 2017

- Camera Ready due : July 31, 2017
- Workshop date : September 4, 2017.

Submissions

Submissions from both academia and Industry are welcome as far as the submitted content is relevant to the topic of the workshop. Research papers, experience reporting, position papers or demonstrations will all be considered by the scientific committee.

Submission format follows the [guidelines of ECAL 2017 Conference \(https://project.inria.fr/ecal2017/submission-guidelines/\)](https://project.inria.fr/ecal2017/submission-guidelines/).

Please note that submission link for the workshop is: <https://easychair.org/conferences/?conf=devlhrami2017>

- For **research or application papers**, there are two options for submission: either full paper or extended abstract. Note that the format is exactly the same for both options. The differences reside in the number of pages and type of contents:

- Full papers have an 8-page maximum length and should report on new, unpublished work.
- Extended abstracts are limited to a 2-page length and can report on previously published work, with an emphasis on how the submission will contribute to enrich discussions and exchanges during the workshop.

- **Industrial papers** reporting successful experiences or challenging ongoing developments related to the workshop topic are particularly welcome and could be in either short format (2-page length limit) or long format (8-page length limit).

- **Demonstrations** related to one of the mentioned topics or other topics related to the general theme of the workshop, are also very welcome. A demonstration submission is limited to 6-page length, with a description of the addressed problem and the objectives of the demonstration, the demonstrated scenario and the main observations or results shown by the demonstration. A link to a video of the demo is appreciated.

Each submission should be uploaded as a single file, in PDF format only, to the Easy Chair system:

<https://easychair.org/conferences/?conf=devlhrami2017>

All submissions will undergo a detailed peer review process. Full papers will be reviewed for relevance, scientific quality, sound methodology and use of appropriate analysis techniques. Abstracts will be reviewed for relevance and quality. Both papers and extended abstracts will be considered for oral presentation, without distinction between full papers and extended abstracts. Accepted papers and extended abstracts will be combined in the workshop proceedings.

NOTE: At least one author of every accepted paper must be registered 30 days prior to the conference, or the contribution will be withdrawn from the program and the proceedings.