# Imperial College London

# HLC Newsletter

## Welcome to the HLC Network

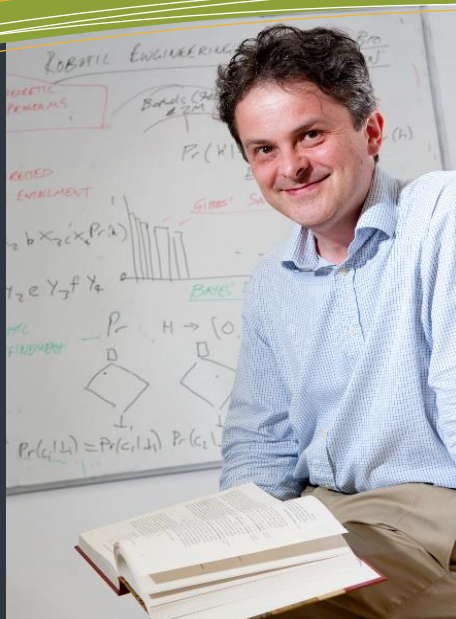Welcome to the first newsletter of the Human-Like Computing network.

Thanks to all those who sent in news items. In the descriptions below you will see impressive and substantial progress has been made during 2018.

We are now starting to prepare for issuing (in March 2019) the next annual call for Kick-start SME events, Travel and Endorsements.

We will also shortly be sending out a call for the MI21-HLC meeting to be held from 30th June to 3rd July 2019 at Cumberland Lodge. Like the MI20-HLC meeting, this workshop will provide high-level presentations and discussions on a wide-variety of topics relevant to HLC.

In the meantime I would like to wish you all a very Happy Christmas and New Year.

Stephen Muggleton,
Director of the EPSRC
HLC Network



## Development of a cohesive community of scientific researchers in the area of Human-Like Computing (HLC)

## Awards

**Patrick G.T. Healey (Queen Mary University of London)** has started as a Turing Fellow at the Alan Turing Institute.

**Mateja Jamnik (University of Cambridge)** became an Associate Fellowship at the Leverhulme Centre for the Future of Intelligence(UK).

## Media

**Stephen Muggleton, Francesca Toni and Alessio Lomuscio (Imperial College London)** all featured in an article entitled "Machines we can trust, learn from and collaborate with" **by David Silverman.**
**Read more:**
**http://www.imperial.ac.uk/enterprise/issues/explainable-ai/**

## Funding

**Patrick G.T. Healey (Queen Mary University of London) and Hamed Haddadi (Imperial College London)** have been awarded a Kick Start Grant from the HLC Network for their proposal entitled "Social Sensing".

**Francesca Toni (Imperial College London), Dave Lagnado and Christos Bechlivanidis (UCL)** have been awarded a Kick Start Grant from the HLC Network for their proposal entitled 'Evaluating dialectical explanations for recommendations'.

**Nick Chater (University of Warwick), Adam Sanborn (University of Warwick, Psychology) and PhD student Zhu Jianqiao (University of Warwick),** have received funding for a short project applying sampling models of individual probability judgements to financial markets, from the National Institute for Economic and Social Research. The question is whether a computational models of individual cognition can 'scale-up' to explain patterns and biases in the collective behaviour of many thousands of people.

**Mateja Jamnik (University of Cambridge)** received funding from the ESRC DTC for a PhD Studentship with collaborator in Faculty of Education, University of Cambridge on "AI tutor".

Mateja Jamink speaking at the Berlin Science Festival public talk: ETH Zurich event on 6th November 2018

## Top journals, conference papers and publications

**Xue Li, Alan Bundy and Alan Smaill (University of Edinburgh**) "ABC Repair System for Datalog-like Theories",10th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management, 2018.
Read more :
http://www.research.ed.ac.uk/portal/en/persons/alan-bundy%28bfb547ed-a4df-4a6c-b1be-8ecd9b13419f%29.html

**Alan Bundy, Kwabena Nuamah and Christopher Lucas (University of Edinburgh),** "Automated Reasoning in the Age of the Internet", Invited Talk at 13th International Conference on Artificial Intelligence and Symbolic Computation, 2018.
Read more :
http://www.research.ed.ac.uk/portal/en/persons/alan-bundy%28bfb547ed-a4df-4a6c-b1be-8ecd9b13419f%29.html

**Patrick G.T. Healey (Queen Mary University of London)** recently published a special issue of Topics in Cognitive Science on Miscommunication:
https://onlinelibrary.wiley.com/toc/17568765/10/2

The editorial from this was included in a special journal issue "Visions of Cognitive Science" to mark the 40th Anniversary of the Cognitive Science Society.

**Francesca Toni (Imperial College Londo**n) hosted the Explain AI@Imperial Workshop on 25th April 2018.

This workshop aimed to bring together doctoral, early-stage and experienced researchers working in all areas of AI where there is either a need for explainability or potential for providing explainability.
Read more :
https://www.doc.ic.ac.uk/~afr114/explainAI/index.html

**Stephen Muggleton (Imperial College London)** was invited to be a panelist at the Times Higher Education Huawei Academic Salon, London (June 2018).

**Stephen Muggleton (Imperial College London)** was an invited speaker at SYNT18 in July 2018 and gave a talk about Meta-Interpretive Learning (MIL), which is a recent Inductive Logic Programming technique aimed at supporting learning of recursive definitions.
Read more :
http://synt2018.seas.ucla.edu/invited.html

**Francesca Toni (Imperial College London)** was a Senior PC member of the 27th International Joint Conference on Artificial Intelligence (IJCAI) and 23rd European Conference on Artificial Intelligence (ECAI), (Serior PC member), 9-19 July, 2018, Stockholm, Sweden.
Read More: https://www.ijcai-18.org/

**Stephen Muggleton (Imperial College London)** was invited to be a Keynote speaker at Pacific Rim International Conference on Artificial Intelligence (PRICAI), Nanjing, (August 2018).
Read more : http://cse.seu.edu.cn/pricai18/

In September 2018, **Stephen Muggleton (Imperial College London)** visited **Josh Tenenbaum (MIT)** and they held a series of discussions on the form of experiments to be conducted on relevance-detection for background knowledge. The plan is the experiments should compare human learning (MIT group) with machine learning (Imperial group) on comparable tasks.

**Francesca Toni (Imperial College London**) was a PC member of the 7th International Conference on Computational Models of Argument, 12-14 September 2018, Warsaw, Poland
**Read More :**
http://comma.csc.liv.ac.uk/node/25

"The main stakeholders in our project are: other researchers within both Artificial Intelligence and Cognitive Science"

**Stephen Muggleton (Imperial College London)** was invited to give a talk at MLE18 (Machine Learning and Explainability) in Orleans in October 2018. This event was supported by the Artificial Intelligence Journal.
Stephen's talk described work in the following recently published paper.S.H. Muggleton, U. Schmid, C. Zeller, A. Tamaddoni-Nezhad, and T. Besold. Ultra-strong machine learning - comprehensibility of programs learned with ILP. *Machine Learning*, 107:1119-1140, 2018

Read more :
https://www.univ-orleans.fr/lifo/Members/vrain/MLE18/WS_MLE18.html

Opening ceremony for Nanjing-Imperial Machine Learning Hub - 26th August 2018

# Events, seminars, competitions and key note talks

**Stephen Muggleton (Imperial College London)** was invited to give a keynote talk at the A* STAR Scientific Conference on 23rd October 2018. This year's theme was **"Collisions: From Imagination to Impact"** and they aimed to explore how one branch of knowledge can influence others, so that what we imagine becomes possible and delivers impact.
Read more :
https://www.a-star.edu.sg/News-and-Events/News/Other-Highlights/ID/7319

**Francesca Toni (Imperial College London)** was a PC member of the Reasoning with Ambiguous and Conflicting Evidence and Recommendations in Medicine - Workshop at the 16th International Conference on Principles of Knowledge Representation and Reasoning, 29 October 2018, Tempe, Arizona, USA
**Read more :**
**https://sites.google.com/view/medracer**

**Mateja Jamnik (University of Cambridge**) will be a Senior Programme Committee member of the International Joint Conference on Artificial Intelligence (IJCAI 2019).

**Francesca Toni (Imperial College London)** was a Program Co-Chair at the 16th International Conference on Principles of Knowledge Representation and Reasoning, 30 October-2 November, 2018, Tempe, Arizona, USA. Read more:
http://reasoning.eas.asu.edu/kr2018/

**Patrick G.T. Healey (Queen Mary University of London** gave a talk at the Alan Turing Institute on "Miscommunication" on Friday 30th November to the Social Data Science group.

**Nick Chater (University of Warwick)** has been 'touring' his book in the US "The Mind is Flat" with talks at Harvard, MIT, Columbia, Princeton, Yale and, more locally, Paris, Edinburgh, London, perhaps less obviously, Harrogate, and Ilkley.

**Mateja Jamnik (University of Cambridge)** gave a talk at the Berlin Science Festival public talk: ETH Zurich event on Man and Machine: The Emergence of Artificial Intelligence, 6 November 2018. Title of talk: "Man and Machine"

# Upcoming Events

- **Stephen Muggleton (Imperial College London)** will be hosting the Human-Like Computing Machine Intelligence Workshop (MI21-HLC), Cumberland Lodge, The Great Park, Windsor, Berkshire, UK, Sunday 30th June to Wednesday 3rd July 2019.



Cumberland Lodge, Windsor, UK

- **Murray Shanahan and Matthew Crosby (Imperial College London)** are on the organising committee for The Animal-AI Olympics, which is an AI competition in development for release in 2019. The aim is to compare modern AI approaches with animals using well-established tasks from the animal cognition literature translated for AI. This will allow for evaluation of modern AI towards animal-like (and therefore to some extent human-like) aspects of intelligence. More details of the competition (still in the early development phase) can be found at animalaiolympics.com.



Image credit
http://www.squidoodleshop.com/

- The www.kindsofintelligence.com conference will be held in Cambridge on June 19th-21st 2019 following the annual Margaret Boden Lecture, this year given by Daniel Dennett. The conference will bring together researchers from psychology, animal cognition, artificial intelligence, and philosophy of mind, to explore issues concerned with understanding intelligence (from a biological - animals and human - perspective) in the age of AI. The three days' topics are artificial consciousness in the age of the deep learning, generality and intelligence in animals and AI, and intelligence augmentation. The second day may be of particular interest to the HLC network and follows on from a successful workshop in collaboration with MIT and IBM on a similar theme on October 5th 2018.