Séverin Lemaignan

Research Associate
Cognition for Social Robotics

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33 years old

Scientific Focus

Scientific Focus — **Robot cognition and decision making for social interaction**: human-robot multi-modal interaction; theory of mind for robots; symbolic and sub-symbolic knowledge representation.

PhD Title — Grounding the Interaction: Knowledge Representation for Interactive Robots

Keywords — **Robotic Cognition**, **Human-Robot Interaction**, **Cognitive Architectures**

Education and Research Activities

2015– **EU Marie Skłodowska-Curie Post-doctoral fellow**, Centre for Neural Systems and Robotics, Plymouth University, Plymouth, United Kingdom.
Development and Implementation of a Theory of Mind for robots.

2013–2015 **Post-doctoral fellow**, CHILI, EPFL, Lausanne, Switzerland.
Interaction with Robots in Educational Environments – Supervision of the robotic group.

2012–2013 **Post-doctoral fellow**, LAAS-CNRS, Toulouse, France.
Spatial and Temporal Reasoning for Cognitive Robotic Architectures.

2008–2012 **German-French PhD in Cognitive Robotics**, LAAS-CNRS, Toulouse, France / IAS-TUM, Munich, Germany.
with High Distinction "Summa Cum Laude" – awarded CNRS' **Best PhD in Robotics 2012**
Supervisors: Pr. Rachid Alami, CNRS Senior Researcher, Pr. Michael Beetz, TUM Senior Researcher.

2006–2007 **Research Engineer**, INRIA, Paris, France.
Development of semantic-aware control architectures for autonomous vehicles.

2002–2006 **German-French MSc of Engineering**, Karlsruhe Institute of Technology / ENSAM ParisTech.
Final project: Ontologies and distributed systems for industrial processes.

2004–2005 **MSc Artificial Intelligence for Learning Technologies**, University Paris V, College of Mathematics and Computer Sciences, With Honours.

Awards and Honors

- **Best Paper 'Methods and Theory' Award**, HRI'2016
- Awarded the prestigious **European Marie Skłodowska-Curie Fellowship** to conduct research on Theory of Mind applied to robots
- **AAAI 2015 Best Video Award in Artificial Intelligence**
- **Best Late Breaking Report Award**, HRI'2014
- **Best PhD in Robotics**, CNRS 2012
- **PhD with High Disctinction** ("Summa Cum Laude"), TU Munich 2012
- **Best Paper Award**, ROMAN'2010
- **Gold Medal** (top ten students), ENSAM ParisTech 2006

Selected Publications

See my website for the complete list of publications, workshops and seminars.

International peer-reviewed journals

- Lemaignan S., Warnier M., Sisbot E. A., Clodic A., Alami R., **Artificial Cognition for Social Human-Robot Interaction: An Implementation**, Artificial Intelligence, 2016.
- Lemaignan S., Jacq A. and Hood D., Garcia F., Dillenbourg P., **Learning by Teaching a Robot: The Case of Handwriting**, IEEE Robotics and Automation Magazine, 2016.
- Lemaignan S., Ros R., Sisbot E. A., Alami R., Beetz M., **Grounding the Interaction: Anchoring Situated Discourse in Everyday Human-Robot Interaction**, International Journal of Social Robotics, 2011.

International peer-reviewed conference articles (6-8 pages)

- Lemaignan S., Garcia F., Jacq A., Dillenbourg P., **From Real-time Attention Assessment to "With-me-ness" in Human-Robot Interaction**, HRI, 2016. **Best Paper Award**
- Lemaignan S., Ros R., Alami R., Beetz M., **What are you talking about? Grounding dialogue in a perspective-aware robotic architecture**, ROMAN, 2011.
- Lemaignan S., Ros R., Mösenlechner L., Alami R., Beetz M., **ORO, a knowledge management module for cognitive architectures in robotics**, IROS 2010.

Supervision & Teaching Experience

Students supervision.

- C. Wallbridge (PhD, 2016-): Spatial Reasoning for Child-Robot Interacion
- E. Senft (PhD, 2015-): Machine learning approaches to social human-robot shared control
- F. Garcia (Master, 2015): Real-time attention assessment
- A. Jacq (PhD, 2014-2015): Mutual modeling and repair strategies in HRI
- A. Özgür (PhD, 2014-2015): Cellulo: paper robots for large-scale robotic deployments in schools
- D. Hood (Master, 2014): CoWriter project: Getting Nao to write on a tactile tablet
- S. Chandra (PhD, 2013-2014): CoWriter project: learning by teaching handwriting to a robot
- J. Fink (PhD, 2013-2014): Long-term acceptance of robots in daily life, Anthropomorphism
- P. Tsemengue, M. Chouayakh (Master, 2010): The Dialogs natural language processor

2016 **Lecturer**, Plymouth University.
Humanoid & Mobile Robots (Kalman filtering, bipedal walking, localisation and planning, control architectures,...)

2013–2016 **Guest lectures**, Plymouth University, EPFL.
RGB-D cameras for HRI, Introduction to computer graphics & 3D modelling.

2008–2016 **Support lectures in robotics**, Plymouth University, EPFL, LAAS-CNRS, Université de Toulouse.
ROS, robotic simulation, ontologies, Python, software development.

2008–2011 **Teaching assistant**, INSA Toulouse, Écoles des Mines de Paris.
Prolog, Ontology Modeling, Java, ADA, SQL, Mechatronics.

Scientific Engagement & Dissemination Activities

2017 **Theme chair & Programme Committee**, HRI 2017.

2016 **Associate Editor**, IROS 2016.

2016 **Programme Committee**, HRI 2016.

2016 **Programme Chair, Workshop on Cognitive Architectures for Social HRI**, HRI 2016, `https://sites.google.com/site/cogarch4socialhri2016/`.

2013 **Steering Committee, Intl. Workshop on MORSE for HRI**, HRI 2014.

2013 **Programme Committee, Workshop on Developmental Social Robotics**, IROS 2013, `http://devsor2013.sciencesconf.org`.

2012 **Steering Committee, Intl. Workshop on MORSE and its Applications**.

2008–2009 **Steering Committee, Cognitive Sciences' Young Researchers Conference 2009**, `http://fresco.risc.cnrs.fr/cjcsc2009/`.

Main Outreach Actions

2011 **'Roboscopie' Human-Robot public theater performance**, Science Day'11.
`http://bit.ly/1LQpNWA`

2008–2012 **Robotics Science Day Coordinator**, LAAS-CNRS.

2008–2011 **Vice President of Toulouse's Cognitive Science Student Association** .
`www.incognu.fr`

2008–2009 **Science communicator at South African SciFest festival**.

1997–2012 **Leading role at 'Planète Sciences' non-profit**, Head of the Robotics Department 2006-2007 – Executive Committee 2008-2011 – Science Camps leader (with BAFA certification) – Coordinator on the EUROBOT Robotic Competition .
`http://www.planete-sciences.org/`

Technical Skills and Spoken Languages

Robotics
- Expert in cognitive robotics and human-robot interaction
- Expert in symbolic knowledge representation
- Expert PR2, Pepper, Nao developer
- Contributor to ROS, OpenCV
- Lead dev. MORSE simulator

Programming
- Python, C++, Haskell, Prolog, SmallTalk
- Open-source enthusiast GitHub: `github.com/severin-lemaignan`

Languages

French	Native	
English	Fluent	TOEIC score 925/990
German	Advanced	DSH