

# Séverin Lemaignan

Post-doctoral Researcher  
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 Distinction** (“Summa Cum Laude”), TU Munich 2012
- **Best Paper Award**, ROMAN'2010
- **Gold Medal** (top ten students), ENSAM ParisTech 2006

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## Selected Publications

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

### International peer-reviewed journals

- 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., Warnier, M., Sisbot, E. A., Alami, R., **Human-Robot Interaction: Tackling the AI Challenges**, Artificial Intelligence, 2014.
- 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.

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## Supervision & Teaching Experience

### Students supervision.

- 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

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.

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## 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 **'Roboscopia' 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](http://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/>

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## Technical Skills and Spoken Languages

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| Robotics | <ul style="list-style-type: none"><li>Expert in cognitive robotics and human-robot interaction</li><li>Expert in symbolic knowledge representation</li><li>Expert PR2, Nao developer</li><li>Contributor to ROS, OpenCV</li><li>Lead dev. MORSE simulator</li></ul> | Programming | <ul style="list-style-type: none"><li>Python, C++, Haskell, Prolog, SmallTalk</li><li>GitHub:<br/><a href="https://github.com/severin-lemaignan">github.com/severin-lemaignan</a></li></ul> |
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## Languages

French	Native
English	Fluent
German	Advanced

TOEIC score 925/990
DSH