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 nowledge representation.

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

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

Education and Research Activities

2015– **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
- **AAAI 2015 Best Video Award in Artificial Intelligence**
- **Best Late Breaking Report Award**, HRI'2014
- **Best PhD in Robotics**, Groupe de Recherche Robotique, 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., 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.

Supervision & Teaching Experience

Students supervision.

○ E. Senft (PhD, 2015-): *Machine learning approaches to human-robot shared control in education*

○ 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.

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, Nao developer
- Contributor to ROS, OpenCV
- Lead dev. MORSE simulator

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

Languages

French   Native

English   Fluent   *TOEIC score 925/990*

German   Advanced   *DSH*