

Pauline Chevalier

Research group Human Media Interaction (HMI)
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Education

2016: **Ph.D., Informatics** - Human-Robot Interaction, Paris-Saclay University, ENSTA-ParisTech (U2IS), France.

Thesis supervisors: Prof. Adriana Tapus, Prof. Jean-Claude Martin, and Prof. Brice Isableu.

2013: **M.S., Electronic Engineering**

Université Pierre et Marie Curie, Paris, France

Master Sciences de l'Ingénieur Electronique: Orientation Système Avancé et Robotique - Spécialité Systèmes Intelligents et Robotique

2012: **B.S. with Honors, Electronic Engineering**

Université Pierre et Marie Curie, Paris, France

Master Sciences de l'Ingénieur Electronique: Orientation Informatique Industrielle, Image, Signal et Robotique

2011: **B.S. Science and Technology, Electronic Engineering**

Université Pierre et Marie Curie, Paris, France

Research Experience

Jan 2017 - current : PostDoctorant researcher, DE-ENIGMA project (H2020 european project), Human Media Interaction (HMI), Enschede, The Netherlands

Dec 2013 - Dec 2016: PhD Student, Robotics and Computer Vision Lab, ENSTA-ParisTech, 828, Bld des Maréchaux, 91120 Palaiseau, Supervisors: Prof. Adriana Tapus, Prof. Jean-Claude Martin, and Prof. Brice Isableu.

Impact of Sensory Preferences in Individuals with Autism Spectrum Disorder on their Social Interaction with a Robot.

Feb 2013 - Aug 2013: Internship, Institut des Systemes Intelligents et de Robotique (ISIR), 5 Place Jussieu, 75005 Paris, Supervisor : Kevin Bailly, (*6 months*)

Facial expression analysis for Human-Virtual Agent Interaction.

May 2012 - Jul 2012: Internship, Institut des Systemes Intelligents et de Robotique (ISIR), 5 Place Jussieu, 75005 Paris, Supervisor: Kevin Bailly, (*2 months*)

Detection and visualization of facial expression by vision.

Teaching Experience

September 2017 - January 2018 : Instructor for the Intelligent Interaction Design, Second year of Master Students of HMI cursus at the University of Twente, Enschede, The Netherlands

September 2017 - January 2018 : Instructor for the Human Media Interaction Project, Second year of Master Students of HMI cursus at the University of Twente, Enschede, The Netherlands

September 2017 - January 2018 : Teaching assistant for the Academic Research Skills, Third year of Bachelor Students of HMI cursus at the University of Twente, Enschede, The Netherlands

April 2017 - June 2017 : Instructor for the Affective Computing class, Second year of Master Students of HMI cursus at the University of Twente, Enschede, The Netherlands

Jan 2015 - Apr 2015: Teaching Assistant for Projet tutoré - Compléments (Project with Nao robot), Second year of I.U.T. d'Informatique, 27 hours, I.U.T. d'Informatique d'Orsay, Orsay, France.

Sep 2015 - Oct 2015: Teaching Assistant for Méthodologie de la production de logiciel, Second year of I.U.T. d'Informatique, 10.5 hours, I.U.T. d'Informatique d'Orsay, Orsay, France.

Sep 2015 - Jan 2015: Teaching Assistant for Conception de documents et d'interfaces numeriques, First year of I.U.T. d'Informatique, 25.5 hours, I.U.T. d'Informatique d'Orsay, Orsay, France.

Mar 2015 - Jun 2015: Teaching Assistant for Computer Science Project - Picross (*Projet Informatique - Picross*), First year of Engineering School, 24 hours, ENSTA-ParisTech, Palaiseau, France.

Sep 2014 - Dec 2014: Teaching Assistant for Algorithmic and Programming - in Python (*Algorithmique et Programmation - en Python*), First year of Engineering School, 21.25 hours, ENSTA-ParisTech, Palaiseau, France.

Honors and Awards

2016 - Travel Fellowship "International Exchanges for PhD Students", Interface Doctoral School 2016

2016 - Nominated for Prix Innovation jeune chercheur.se, Handiversité 2016

2015 - Prix Doctorant Demenÿ-Vaucansson 2015

2015 - Best Student Paper Award, RAAD 2015

2013 - Ile de France Doctoral Fellowship, HANDICAP theme

Publications

Refereed Journal Articles

1. **Chevalier, P.**, Martin, J. C., Isableu, B., Bazile, C., & Tapus, A. (2017). Impact of sensory preferences of individuals with autism on the recognition of emotions expressed by two robots, an avatar, and a human. *Autonomous Robots*, 41(3), 613-635.
2. Raiola, G., Restrepo, S. S., **Chevalier, P.**, Rodriguez-Ayerbe, P., Lamy, X., Tliba, S., & Stulp, F. (2017). Co-manipulation with a library of virtual guiding fixtures. *Autonomous Robots*, 1-15.

Refereed Book Chapter Papers

3. **Chevalier, P.**, Martin, J.-C., Isableu, B., Bazile, C., Tapus, A., Proprioceptive and Kinematic Profiles for Customized Human-Robot Interaction for People Suffering from Autism, *Autism - Paradigms and Clinical Application*
4. **Chevalier, P.**, Martin, J.-C., Isableu, B., Tapus, A., Individuals with Autism: Analysis of the First Interaction with Nao Robot Based on Their Proprioceptive and Kinematic Profiles, In *Advances in Robot Design and Intelligent Control*, 225-233.

Refereed Conference Papers

5. **Chevalier, P.**, Li, J. J., Ainger, E., Alcorn, A. M., Babovic, S., Charisi, V., ... & Evers, V. (2017, November). Dialogue Design for a Robot-Based Face-Mirroring Game to Engage Autistic Children with Emotional Expressions. In *International Conference on Social Robotics* (pp. 546-555). Springer, Cham.
6. **Chevalier, P.**, Raiola, G., Martin, J.-C., Isableu, B., Bazile, C., Tapus, A., Do Sensory Preferences of Children with Autism Impact an Imitation Task with a Robot?, In *Proceedings of IEEE Human-Robot Interaction Conference (HRI2017)*, Vienna, Austria, March 2017
7. Restrepo, S. S., Raiola, G., **Chevalier, P.**, Lamy, X., & Sidobre, D. (2017, July). Iterative virtual guides programming for human-robot comanipulation. In *Advanced Intelligent Mechatronics (AIM)*, 2017 IEEE International Conference on (pp. 219-226). IEEE.
8. **Chevalier, P.**, Martin, J.-C., Isableu, B., Bazile, C., Tapus, A., Joint Attention with a Robot: Impact of Sensory Preferences of Children with Autism, In *Proceedings of RO-MAN 2016*, New York, August 2016
9. **Chevalier, P.**, Martin, J.-C., Isableu, B., Tapus, A., Impact of Personality on the Recognition of Emotion Expressed via Human, Virtual and Robotic Embodiments, In *Proceedings of RO-MAN 2015*, Kobe, Japan, September 2015

Refereed Poster Papers

10. **Chevalier, P.**, Martin, J.-C., Isableu, B., Bazile, C., Tapus, A., Human-Robot Interaction: Impact of Sensory Preferences for Users with Autistic Spectrum Disorder, MB&E 2016 / 21 - 23 November, Lille
11. **Chevalier, P.**, Martin, J.-C., Isableu, B., Bazile, C., Tapus, A., Attention Conjointe avec un Robot : Impact des Préférences Sensorielles chez des Individus avec Autisme, Handiversité 2016
12. **Chevalier, P.**, Martin, J.-C., Isableu, B., Bazile, C., Tapus, A., Social Personalized Human-Machine Interaction for People with Autism: A close look at Proprioceptive and Visual Orientation Integration, International Meeting for Autism Research (IMFAR2015), Salt Lake City, Utah, USA, May 2015
13. **Chevalier, P.**, Martin, J.-C., Isableu, B., Bazile, C., Tapus, A., Social Personalized Human-Machine Interaction for People with Autism: Defining User Profiles and First Contact with a Robot, In Proceedings of IEEE Human-Robot Interaction Conference (HRI2015) Late Breaking Report, Portland, Oregon, USA, March 2015

Refereed Workshop and Symposia Papers

14. **Chevalier, P.**, Raiola, G., Isableu, B., Martin, J.-C., Bazile, C., and Tapus, A., Impact des profils sensoriels sur l'imitation des mouvements d'un robot par des participants autistes, Journée FéDeV 2016
15. **Chevalier, P.**, Isableu, B., Martin, J.-C., and Tapus, A., Profilage Visuel et Proprioceptif pour l'Elaboration d'Interactions Homme-Robot Adaptées, Journée FéDeV 2015
16. **Chevalier, P.**, Isableu, B., Martin, J.-C., and Tapus, A., Evaluation of Child-Robot Interaction: why is it different from adults?, 1st Workshop on Evaluating Child-Robot Interaction at ICSR, Paris, October 26 2015
17. **Chevalier, P.**, Social Personalized Human-Machine Interaction for People with Autism, In Proceedings of IEEE Human-Robot Interaction Conference (HRI) Pioneers Workshop, Portland, Oregon, USA, March 2015
18. **Chevalier, P.**, Martin, J.-C., Isableu, B., Bazile, C., Tapus, A., Social Personalized Human-Robot Interaction for People with Autism: A close look at Proprioceptive and Visual Orientation Integration, Journées Nationales de la Robotique Interactive 2014 (JNRI- 2014), Toulouse, November, 2014

Other

19. Lanfranchi, S., and **Chevalier, P.**, "La Recherche et la Robotique, Deux Alliées de Choix dans le Combat contre l'Autisme", In ENSTActualités 14, Printemps 2015

Service

Conferences Organizing Committees

Local Organising Committee, International Conference on Social Robotics (ICSR) 2015

Workshop Organizing Committees

Social Robots in Therapy: Focusing on Autonomy and Ethical Challenges, in conjunction with the 13th ACM IEEE International Conference on Human-Robot Interaction (HRI 2018)

Reviewer for Profesional Journals and Conferences

International Journal of Social Robotics

Interaction Studies

IEEE Robotics and Automation Letters (RA-L)

ACM/IEEE International Conference on Human-Robot Interaction (HRI)

IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)

International Conference of Social Robotics (ICSR)

IEEE Transactions on Cognitive and Developmental Systems

IEEE International Conference on Robotics and Automation (ICRA)

Invited Talks

Invited Talks - excluding conference paper talk

"Designing Robot-Based Games for Autistic Children", Guest Lecture, at the Groupware Laboratory, Tsukuba University, November 2017

"Designing Robot-Based Games for Autistic Children", Guest Lecture, at the Artificial Intelligence Laboratory, Tsukuba University, November 2017

"Human-Robot Interaction: Impact of Sensory Preferences of Individuals with Autism", Guest Lecture, at the Social Robotic Laboratory, Yale University, September 2016

"Human-Robot Interaction: Impact of Sensory Preferences of Individuals with Autism", Guest Lecture, at the Human Media Interaction Laboratory, Twente University, October 2016

Others

Participation to the Tallinn Digital Submit 2017, to present the DE-ENIGMA project to European Heads of State

Participation to Science Festival (*Fête de la Science*) at ENSTA-ParisTech in 2014 and 2015, and at Université Paris-Sud in 2015 and 2016.

Handicap Day (*Journée du Handicap*), ENSTA-ParisTech, September the 29th, 2016

Co-organizer of PhD students Meetings in ENSTA-ParisTech U2IS laboratory, winter and spring 2016