

## Mehdi Khamassi

Director of research (DR2 CNRS)

Institute of Intelligent Systems and Robotics (ISIR)

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### Research interests

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Computational, behavioral & brain mechanisms for the online adaptive coordination of parallel learning processes in animals and robots.

### Approaches

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Combining computational modelling, experimentation in cognitive robotics, model-based analyses of neurobiological data, design of new experimental protocols to test model predictions, animal training and conditioning, and (formerly) extracellular multi-unit recordings in behaving animals.

### Affiliations

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Since 2020 **Director of research (DR2 CNRS)**, ISIR, SU, Paris, France  
Since 2019 **Associate member**, Sorbonne Center for Artificial Intelligence (SCAI), Paris, France  
Since 2019 **Collaborating member**, Centre Union Neuro & Artificial Intelligence, Québec, Canada  
Since 2016 **Visiting researcher**, National Polytechnical University of Athens, Greece  
2010-2020 **Permanent research scientist (CR2 then CR1 then CRCN CNRS)**, ISIR, SU, Paris, France  
2017-2020 **Visiting academic**, Department of Experimental Psychology, University of Oxford, UK  
2013-2015 **Visiting researcher**, Center for Mind/Brain Sciences, University of Trento, Italy  
2008-2010 **Post-doctoral fellow**, INSERM - Stem-cells and Brain Research Institute, Lyon, France  
2008 (3m.) **Visiting researcher**, Neural Computation Unit, Okinawa Inst. of Science & Tech, Japan

### Other current academic responsibilities

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Since 2020 **Scientific coordinator of the transverse research theme “Child-Robot Interactive Learning”** at ISIR.  
Since 2020 **Advisor for the TESaCo project (Emerging Technologies and Collective Wisdom) of the French Academy of Moral and Political Sciences.** Project led by Daniel Andler.  
Since 2015 **Co-director of studies and pedagogical council member for the CogMaster**, École Normale Supérieure / École des Hautes Études en Sciences Sociales / Paris Univ.  
Since 2012 **Co-animator of the “GT8 Robotics & Neuroscience” working group**, CNRS National Robotics Network called “Groupement De Recherche” (GDR).  
Since 2012 **Member of the executive committee of the SMART Labex**, gathering eight institutes / laboratories related to Sorbonne Univ.: ISIR, LIP6, LIF, LJLL, LTCI, LUTIN, L2E & STMS.

### Education

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2014 **HDR (Habilitation/Entitlement to Direct Researches)**, UPMC, Paris, France.  
2003-2007 **Ph.D. in Cognitive Sciences** (summa cum laude), UPMC, Paris, France.  
2002-2003 **M.Sc. in Cognitive Sciences – CogMaster** (summa cum laude, top rank), UPMC / École Normale Supérieure de Paris / École Polytechnique / EHESS, Paris, France.  
2000-2003 **M.Eng. in Computer Science**, École Nationale Supérieure d’Informatique pour l’Industrie et l’Entreprise, Conservatoire National des Arts et Métiers / Université d’Évry, France. *Specialties: Artificial Intelligence & Statistical Modelling.*  
1998-2000 **Maths Sup. / Maths Spé. (MP)**, Lycée Charlemagne, Paris, France. *2 years of intensive Maths/Physics preparing the competitive entrance to French “Grandes Écoles”.*  
July 2005 **Okinawa Computational Neuroscience Course**, Okinawa, Japan.  
Nov. 2004 **Okinawa Computational Neuroscience Course**, Okinawa, Japan.  
Aug. 2003 **Integrative and Computational Neuroscience Summer School**, Concarneau, France.

## Awards, prizes, honors and fellowships

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2018	<b>Nanjing City Prize at IEEE RO-MAN 2018 for best late breaking report</b> , with Georgia Chalvatzaki, Theodore Tsitsimis, George Velentzas & Costas Tzafestas.
2017	<b>Visiting Fellowship</b> , University of Oxford, Department of Experimental Psychology.
2016	<b>Visiting Fellowship</b> , National Polytechnical University of Athens, ICCS Robotics Lab.
2014	<b>Visiting Fellowship</b> , University of Trento, Center for Mind/Brain Sciences.
2012	<b>Best paper award at the International Conference on Simulation of Adaptive Behavior</b> , with Jean Bellot & Olivier Sigaud.
2011	<b>Best 2010 Paper in Neuroscience, "La Recherche" Price</b> , with Karim Benchenane, Sidney Wiener, Francesco Battaglia, Adrien Peyrache, Patrick Tierney & Yves Gioanni.
2010	<b>Top rank at the national competition for a tenured research position</b> at the Centre National de la Recherche Scientifique (CNRS). Interdisciplinary commission (CID) 44.
2010	<b>Top rank at the competition for a tenured assistant professor position</b> in Computer Science and Neurorobotics at Université Pierre et Marie Curie (UPMC), Paris, France.
2007	<b>National Qualification for university-level teaching</b> both in Computer Science and in Neuroscience by the Conseil National des Universités (CNU).
2005	<b>Initial Research Project Award</b> from Okinawa Institute of Science and Technology (OIST) to attend the Okinawa Computational Neuroscience Course (OCNC), Japan.
2004	<b>Initial Research Project Award</b> from Okinawa Institute of Science and Technology (OIST) to attend the Okinawa Computational Neuroscience Course (OCNC), Japan.
2003	<b>French Research Ministry Award</b> to attend the Integrative and Computational Neuroscience Summer School in Concarneau, France.
2003	<b>French Research Ministry PhD fellowship (MENRT)</b> , Université Pierre et Marie Curie, "Brain, Cognition & Behavior" Doctoral School (top rank).

## Funding (since tenure)

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2020-2023	<b>EU ICT-48-2020</b> – "HumanE AI Net: Human in the loop machine learning [...] Human-AI Collaboration [...] Legal and ethical bases for responsible AI" (role: participant with Mohamed Chetouani (co-PI) et al.) – Total: 12M€ (240K€ for the team).
2019-2023	<b>Agence Nationale de la Recherche ANR-18-AAPG</b> – "CAUSAL: Cognitive Architecture of Causal Learning" (role: co-PI with Andrea Brovelli (PI), Giorgio Coricelli, David Lagnado, Mateus Joffily et al.) – Total direct costs: 467 K€ (80 K€ for the team).
2019-2021	<b>CNRS 80'PRIME Program</b> – "Hippocampal replay through the lenses of reinforcement learning" (role: co-PI with Benoît Girard (PI), Karim Benchenane) – Total direct costs: 220 K€ (for the team).
2018-2021	<b>Agence Nationale de la Recherche ANR-18-AAPG</b> – "SHIFT: Substituting for Healthier Food, investigating food-choices transitions" (role: participant with Nicolas Darcel (PI), Benoît Girard et al.) – Total direct costs: 489 K€ (134 K€ for the team).
2018-2020	<b>CNRS PICS Program</b> – "Auto-evaluation of performance for online adaptation of robots' learning parameters during social interactions" (role: PI with Costas Tzafestas) – Total: 12 K€ (for the team).
2017-2019	<b>CNRS "Osez l'Interdisciplinarité" Program</b> – "ROBAUTISTE: Learning and joint attention in autism" (role: PI with Mohamed Chetouani, Ouriel Grynszpan, Matthew Rushworth, Jérôme Sallet, Olivier Sigaud) – Total: 150 K€ (for the team).
2016-2019	<b>NSF-NIH-ANR Collaborative Research in Computational Neuroscience</b> – "Neurobehavioral assessment of a computational model of reward learning" (role: co-PI with Matt R. Roesch (PI), Alain Marchand) – Total: 670 K\$ (123 K\$ for the team)
2016-2018	<b>Royal Society International Exchanges Scheme</b> – "Highly stochastic analytic meta-learning: the Braitenberg vehicles case study" (role: co-PI with Iñaki Rañó (PI), KongFatt Wong-Lin) – Total: 10 K€ (half for the team).

- 2015-2018 **European Union H2020-ICT-2014** – “DREAM: Deferred Restructuring of Experience in Autonomous Machines” (role: participant with Stéphane Doncieux (PI) et al.) – Total: 2784 K€ (758 K€ for the team).
- 2015-2016 **Sorbonne Universités ANR-11-IDEX-0004-02 Idex SUPER SU-15-R-PERSU-14 PERSU** – “ROBOT PARALLEARNING: Neuro-inspired coordination of parallel learning processes in robots” (role: PI) – Total direct costs: 70 K€ (for the team).
- 2013-2017 **Agence Nationale de la Recherche ANR-11-LABX-65 Labex SMART** – “ONBUL: Online Budgeted Learning” (role: co-PI with Ludovic Denoyer (PI), Patrick Gallinari, Benoît Girard) – Total direct costs: 285 K€ (half for the team).
- 2013-2016 **Agence Nationale de la Recherche ANR-12-CORD-0030 (CONTINT)** – “ROBOERGOSUM: Robot Self-Awareness” (role: co-PI with Rachid Alami, Benoît Girard, Raja Chatila (PI)) – Total direct costs: 422 K€ (258 K€ for the team).
- 2012-2013 **CNRS PEPS Program** – “GoHal: Computational and neurophysiological bases of goal-directed and habit learning” (role: co-PI with Andrea Brovelli (PI), Francesca Sargolini) – Total direct costs: 44 K€ (10 K€ for the team).
- 2011-2015 **Agence Nationale de la Recherche ANR-11-BSV4-006** – “LU2: Learning Under Uncertainty” (role: co-PI with Paul Apicella, Etienne Coutureau, Benoît Girard, Alain Marchand, Emmanuel Procyk (PI)) – Total direct costs: 616 K€ (73 K€ for the team).
- 2011-2014 **Ville de Paris Emergence(s) Program** – “HABOT: From flexible to habitual behaviors: neuroinspired learning for humanoid robots” (role: co-PI with Raja Chatila, Benoît Girard (PI)) – Total direct costs: 285 K€ (for the team).
- 2011-2012 **CNRS PEPII Program** – “IMAVO: Interactions between learning modules in a volatile environment” (role: co-PI with Etienne Coutureau, Alain Dutech, Benoît Girard, Alain Marchand (PI), Nicolas Rougier) – Total direct costs: 27 K€ (6 K€ for the team).

## Publications

### Full research papers in international peer-reviewed journals

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40. Schut, E.H., Alonso, A., Smits, S., Khamassi, M., Samanta, A., Negwer, M., Kasri, N.N., Navarro Lobato, I. and Genzel, L. (2020). The Object Space Task reveals increased expression of cumulative memory in a mouse model of Kleefstra Syndrome. **Neurobiology of Learning and Memory**. To appear.
39. Wittmann, M.K., Fouragnan, E., Folloni, D., Klein-Flügge, M.C., Chau, B., Khamassi, M. and Rushworth, M.F.S. (2020). Global reward state affects learning, the raphe nucleus, and anterior insula in monkeys. **Nature Communications**. To appear.
38. Khamassi, M. and Girard, B. (2020). Modeling awake hippocampal reactivations with model-based bidirectional search. **Biological Cybernetics**, 114:231-248.
37. Zarak, A.\*, Khamassi, M.\*, Wood, L., Lakatos, G., Tzafestas, C., Amirabdollahian, F., Robins, B. and Dautenhahn, K. (2019). A novel reinforcement-based paradigm for children to teach the humanoid Kaspar robot. **International Journal of Social Robotics**, 12(3):709-720. (\* equally contributing authors)
36. Cinotti, F., Marchand, A., Roesch, M.R., Girard, B. and Khamassi, M. (2019). Impacts of inter-trial interval duration on a computational model of sign-tracking vs. goal-tracking behaviour. **Psychopharmacology**, 236(8): 2373-2388.
35. Cinotti, F.\*, Fresno, V.\*, Aklil, N., Coutureau, E., Girard, B., Marchand, A.<sup>§</sup> and Khamassi, M.<sup>§</sup> (2019). Dopamine blockade impairs the exploration-exploitation trade-off in rats. **Scientific Reports**, 9:6770. (\* equally contributing authors) (<sup>§</sup> equally contributing senior authors)
34. Genzel, L., Schut\*, E., Schröder\*, T., Eichler, R., Khamassi, M., Gomez, A., Lobato, I. and Battaglia, F.P. (2019). The object space task shows cumulative memory expression in both mice and rats. **PLoS Biology**, 17(6): e3000322. (\* equally contributing authors)

33. Cazé, R.\* , Khamassi, M.\*, Aubin, L. and Girard, B. (2018). Hippocampal replays under the scrutiny of reinforcement learning models. **Journal of Neurophysiology**, 120(6):2877-2896. (\* equally contributing authors)
32. Bavard, S.\* , Lebreton, M.\* , Khamassi, M., Coricelli, G. and Palminteri, S. (2018). Reference point and range-adaptation produce both rational and irrational choices in human reinforcement learning. **Nature Communications**, 9(1):4503. (\* equally contributing authors)
31. Lee, B., Gentry, R., Bissonette, G.B., Herman, R.J., Mallon, J.J., Bryden, D.W., Calu, D.J., Schoenbaum, G., Coutureau, E., Marchand, A., Khamassi, M. and Roesch, M.R. (2018). Manipulating the revision of reward value during the intertrial interval increases sign tracking and dopamine releases. **PLoS Biology**, 16(9): e2004015. Commented by Eshel & Steinberg.
30. Velentzas, G., Tsitsimis, T., Rano, I., Tzafestas, C. and Khamassi, M. (2018). Adaptive reinforcement learning with active state-specific exploration for engagement maximization during simulated child-robot interaction. **Paladyn Journal of Behavioral Robotics**, 9:235-253.
29. Chatila, R., Renaudo, E., Andries, M., Chavez-Garcia, R.O., Luce-Vayrac, P., Alami, R., Clodic, A., Devin, S., Girard, B. and Khamassi, M. (2018). Towards self-aware robots. **Frontiers in Robotics and AI**, 5:88.
28. Khamassi, M., Velentzas, G., Tsitsimis, T. and Tzafestas, C. (2018). Robot fast adaptation to changes in human engagement during simulated dynamic social interaction with active exploration in parameterized reinforcement learning. **IEEE Transactions on Cognitive and Developmental Systems**, 10(4):881-893.
27. Dollé, L., Chavarriaga, R., Guillot, A.\* and Khamassi, M.\* (2018). Interactions between spatial strategies producing generalization gradient and blocking: a computational approach. **PLoS Computational Biology**, 14(4):e1006092. (\* equally contributing authors)
26. Aklil, N., Girard, B., Denoyer, L. and Khamassi, M. (2018). Sequential action selection and active sensing for budgeted localization in robot navigation. **International Journal of Semantic Computing**, 12(1):109-127.
25. Viejo, G., Girard, B., Procyk, E. and Khamassi, M. (2018). Adaptive coordination of working-memory and reinforcement learning in non-human primates performing a trial-and-error problem solving task. **Behavioral Brain Research**, 355:76-89.
24. Rougier, N.P.\* , Hinsén, K.\* , Alexandre, F., Arildsen, T., Barba, L., Benureau, F.C.Y., Brown, C.T., de Buyl, P., Caglayan, O., Davison, A.P., Delsuc, M.A., Detorakis, G., Diem, A.K., Drix, D., Enel, P., Girard, B., Guest, O., Hall, M.G., Henriques, R.N., Hinaut, X., Jaron, K.S., Khamassi, M., Klein, A., Manninen, T., Marchesi, P., McGlenn, D., Metzner, C., Petchey, O.L., Plessner, H.E., Poisot, T., Ram, K., Ram, Y., Roesch, E., Rossant, C., Rostami, V., Shifman, A., Stachelek, J., Stimberg, M., Stollmeier, F., Vaggi, F., Viejo, G., Vitay, J., Vostinar, A., Yurchak, R., Zito, T. (2017). Sustainable computational science: the ReScience initiative. **PeerJ Computer Science**, 3, e142. (\* equally contributing authors)
23. Viejo, G., Girard, B. and Khamassi, M. (2016). [Re] Speed/accuracy trade-off between the habitual and the goal-directed process. **ReScience**, 2(1).
22. Viejo, G., Khamassi, M., Brovelli, A. and Girard, B. (2015). Modelling choice and reaction time during instrumental learning through the coordination of adaptive working memory and reinforcement learning. **Frontiers in Behavioral Neuroscience**, 9:225.
21. Palminteri, S., Khamassi, M., Joffily, M. and Coricelli, G. (2015). Contextual modulation of value signals in reward and punishment learning. **Nature Communications**, 6:8096.
20. Khamassi, M., Quilodran, R., Enel, P., Dominey, P.F. and Procyk, E. (2015). Behavioral regulation and the modulation of information coding in the lateral prefrontal and cingulate cortex. **Cerebral Cortex**, 25(9):3197-3218.
19. Renaudo, E., Girard, B., Chatila, C. and Khamassi, M. (2015). Respective advantages and disadvantages of model-based and model-free reinforcement learning in a robotics neuro-inspired cognitive architecture. **Procedia Computer Science**, 71:178-184.

18. Lesaint, F., Sigaud, O., Clark, J.J., Flagel, S.B. and Khamassi, M. (2015). Experimental predictions drawn from a computational model of sign-trackers and goal-trackers. **Journal of Physiology – Paris**, 109(1-3):78-86.
17. Lesaint, F., Sigaud, O. and Khamassi, M. (2014). Accounting for negative automaintenance in pigeons: A dual learning systems approach and factored representations. **PLoS ONE**, 9(10):e111050.
16. Lesaint, F., Sigaud, O., Flagel, S.B., Robinson, T.E. and Khamassi, M. (2014). Modelling individual differences observed in Pavlovian autoshaping in rats using a dual learning systems approach and factored representations. **PLoS Computational Biology**, 10(2):e1003466.
15. Arleo, A., Déjean, C., Allegraud, P., Khamassi, M., Zugaro, M.B. and Wiener, S.I. (2013). Optic flow stimuli update anterodorsal head direction neuronal activity in rats. **Journal of Neuroscience**, 33(42):16790-16795.
14. Cos, I., Khamassi, M.\*, Girard, B. (2013). Modelling the learning of biomechanics and visual planning for decision-making of motor actions. **Journal of Physiology – Paris**, 107(5):399-408. (\* corresponding author)
13. Khamassi, M., Enel, P., Dominey, P.F. and Procyk, E. (2013). Medial prefrontal cortex and the adaptive regulation of reinforcement learning parameters. **Progress in Brain Research**, 202:441-464.
12. Humphries, M.D., Khamassi, M. and Gurney, K. (2012). Dopaminergic control of the exploration-exploitation trade-off via the basal ganglia. **Frontiers in Neuroscience**, 6:9.
11. Caluwaerts, K., Staffa, M., N'Guyen, S., Grand, C., Dollé, L., Favre-Félix, A., Girard, B. and Khamassi, M. (2012). A biologically inspired meta-control navigation system for the Psikharpax rat robot. **Bioinspiration & Biomimetics**, 7(2):025009.
10. Khamassi, M. and Humphries, M.D. (2012), Integrating cortico-limbic-basal ganglia architectures for learning model-based and model-free navigation strategies. **Frontiers in Behavioral Neuroscience**, 6-79.
9. Khamassi, M., Lallée, S., Enel, P., Procyk, E. and Dominey P.F. (2011). Robot cognitive control with a neurophysiologically inspired reinforcement learning model. **Frontiers in Neurorobotics**, 5:1.
8. Benchenane, K., Peyrache, A., Khamassi, M., Wiener, S.I. and Battaglia, F.P. (2010). Coherent theta oscillations and reorganization of spike timing in the hippocampal-prefrontal network upon learning. **Neuron**, 66(6):921-936.
7. Peyrache, A., Benchenane, K., Khamassi, M., Wiener, S.I. and Battaglia, F.P. (2010). Sequential reinstatement of neocortical activity during slow oscillations depends on cells' intrinsic excitability. **Frontiers in Systems Neuroscience**, 3:18.
6. Peyrache, A., Benchenane, K., Khamassi, M., Wiener, S.I. and Battaglia, F.P. (2010). Principal component analysis of ensemble recordings reveals cell assemblies at high temporal resolution. **Journal of Computational Neuroscience**, 29(1-2):309-325.
5. Peyrache, A., Khamassi, M., Benchenane, K., Wiener, S.I. and Battaglia, F.P. (2009). Replay of rule-learning related neural patterns in the prefrontal cortex during sleep. **Nature Neuroscience**, 12(7):919-926.
4. Khamassi, M.\*, Mulder, A.B. \*, Tabuchi, E., Douchamps, V. and Wiener S.I. (2008). Anticipatory reward signals in ventral striatal neurons of behaving rats. **European Journal of Neuroscience**, 28(9):1849-1866. (\* equally contributing authors)
3. Khamassi, M., Lachèze, L., Girard, B., Berthoz, A. and Guillot, A. (2005). Actor-critic models of reinforcement learning in the basal ganglia: From natural to artificial rats. **Adaptive Behavior**, 13(2):131-148.
2. Meyer, J.-A., Guillot, A., Girard, B., Khamassi, M., Pirim, P., and Berthoz, A. (2005). The Psikharpax project: Towards building an artificial rat. **Robotics and Autonomous Systems**, 50(4):211-223.
1. Zugaro, M. B.\*, Arleo, A.\*, Déjean, C., Burguière, E., Khamassi, M. and Wiener, S. I. (2004). Rat anterodorsal thalamic head direction neurons depend upon dynamic visual signals to select anchoring landmark cues. **European Journal of Neuroscience**, 20(2):530-536. (\* equally contributing authors)

### Edited journal special issues

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5. Schoenbaum, G., Murray, E., Pessiglione, M., Gottfried, J. and Khamassi, M. (2021). The Magical Orbitofrontal Cortex. **Behavioral Neuroscience**. In preparation.
4. Zech, P., Renaudo, E., Chatila, R. and Khamassi, M. (2020). Computational Models of Affordances in Robotics. **Frontiers in Neurorobotics**. In preparation.
3. Staffa, M., Khamassi, M., Rossi, S. and Tapus, A. (2020). Behavior Adaptation, Interaction and Artificial Perception for Assistive Robotics. **International Journal of Social Robotics**. In press.
2. Khamassi, M., Chatila, R. and Mille, A. (2019). Ethics and Cognitive Sciences / Ethique et Sciences Cognitives. **Intellectica**, vol. 2019/1, num. 70.
1. Khamassi, M. and Doncieux, S. (2016). New Approaches in Cognitive Robotics / Nouvelles Approches en Robotique Cognitive. **Intellectica**, vol. 2016/1, num. 65.

### Short commentaries, editorials and abstracts in international journals

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6. Staffa, M., Rossi, S., Tapus, A. and Khamassi, M. (2020). Special Issue on Behavior Adaptation, Interaction, and Artificial Perception for Assistive Robotics (Editorial). **International Journal of Social Robotics**. To appear.
5. Viejo, V., Khamassi, M., Brovelli, A. and Girard, B. (2014). Coordination of adaptive working-memory and reinforcement learning systems explaining choice and reaction time during a human experiment. Publication of the abstract presented at the 23<sup>rd</sup> Computational Neuroscience Society meeting (CNS 2014) in **BMC Neuroscience**, 15(1), P156.
4. Bellot, J., Khamassi, M., Sigaud, O. and Girard, B. (2013). Which Temporal Difference Learning algorithm best reproduces dopamine activity in a multi-choice task? Publication of the abstract presented at the 22<sup>nd</sup> Computational Neuroscience Society meeting (CNS 2013) in **BMC Neuroscience**, 15(1), P144.
3. Benchenane, K., Peyrache, A., Khamassi, M., Wiener, S.I. and Battaglia, F.P. (2009). Coherence of Theta Rhythm between Hippocampus and Medial Prefrontal Cortex Modulates Prefrontal Network Activity During Learning in Rats. Publication of the short article presented at the 12th Meeting of the Hungarian Neuroscience Society in **Frontiers in Systems Neuroscience**, Vol. 1, No. 04.132, doi:10.3389/conf.neuro.01.2009.04.132.
2. Benchenane, K., Peyrache, A., Khamassi, M., Wiener, S.I. and Battaglia, F.P. (2008). Theta Band LFP Coherence Between Hippocampus and Prefrontal Cortex and Reorganization of Ensemble Cell Activity During Learning. Conference Abstract in **Neuropsychobiology**, 58(3-4):233-233.
1. Arleo, A., Déjean, C., Boucheny, C., Khamassi, M., Zugaro, M.B. and Wiener, S.I. (2004). Optic field flow signals update the activity of head direction cells in the rat anterodorsal thalamus. Abstract in **Journal of Vestibular Research**, 14(2/3):P095.

### National peer-reviewed journals

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5. Khamassi, M., Chatila, R. and Mille, A. (2019). Éthique et Sciences Cognitives. **Intellectica**, vol. 2019/1, num. 70, pp. 7-39. (In French)
4. Girard, B. and Khamassi, M. (2016). Coopération de systèmes d'apprentissage par renforcement multiples. **Techniques de l'Ingénieur**, S7793. (In French)
3. Khamassi, M. and Doncieux, S. (2016). Nouvelles Approches en Robotique Cognitive. **Intellectica**, vol. 2016/1, num. 65, pp. 7-25. (In French)
2. Khamassi, M., Girard, B., Clodic, A., Devin, S., Renaudo, E., Pacherie, E., Alami, R. and Chatila, R. (2016). Integration of action, joint action and learning in robot cognitive architectures. **Intellectica**, vol. 2016/1, num. 65, pp. 169-203. (In English)
1. de Loor, P., Mille, A. and Khamassi, M. (2015). Intelligence artificielle : l'apport des paradigmes incarnés. **Intellectica**, vol. 2015/2, num. 64, pp. 27-52. (In French)

## Peer-reviewed international conferences

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26. Khamassi, M. (2020). Adaptive coordination of multiple learning strategies in brains and robots. Proceedings of the **9th International Conference on the Theory and Practice of Natural Computing (TPNC 2020)**, Springer-Verlag, Taoyuan, Taiwan. Invited paper.
25. Dromnelle, R., Renaudo, E., Pourcel, G., Chatila, R., Girard, B. and Khamassi, M. (2020). How to reduce computation time while sparing performance during robot navigation? A neuro-inspired architecture for autonomous shifting between model-based and model-free learning. Proceedings of the **9th International Conference on Biomimetic & Biohybrid Systems (Living Machines 2020)**, online conference, initially planned in Freiburg, Germany.
24. Dromnelle, R., Girard, B., Renaudo, E., Chatila, R. and Khamassi, M. (2020). Coping with the variability in humans' reward during simulated human-robot interactions through the coordination of multiple learning strategies. Proceedings of the **29th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN 2020)**, Naples, Italy.
23. Oikonomou, P., Khamassi, M. and Tzafestas, C. (2020). Periodic movement learning in a soft-robotic arm. Proceedings of **2020 IEEE International Conference on Robotics and Automation (ICRA 2020)**, Paris, France.
22. Gillepsie, J., Rano, I., Siddique, N., Santos, J.A. and Khamassi, M. (2019). Using reinforcement Learning to attenuate for stochasticity in robot navigation controllers. Proceedings of the **2019 IEEE Symposium Series on Computational Intelligence (SSCI 2019)**, Xiamen, China.
21. Hadfield, J., Chalvatzaki, G., Koutras, P., Khamassi, M., Tzafestas, C. and Maragos, P. (2019). A Deep Learning Approach for Multi-View Engagement Estimation of Children in a Child-Robot Joint Attention Task. In **Proceedings of the 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2019)**, Macau, China.
20. Khamassi, M., Chalvatzaki, G., Tsitsimis, T., Velentzas, G. and Tzafestas, C. (2018). A framework for robot learning during child-robot interaction with human engagement as reward signal. Proceedings of the **27th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN 2018)**, Nanjing, China. BEST LATE BREAKING REPORT AWARD.
19. Aubin, L., Khamassi, M. and Girard, B. (2018). Prioritized sweeping neural DynaQ with multiple predecessors, and hippocampal replays. Proceedings of the **7th Living Machines Conference, Lecture Notes in Artificial Intelligence**. Springer, publisher. Paris, France.
18. Pasala, S.K., Khamassi, M. and Pammi, V.S.C. (2018). Geometric features that describe reference frames in forming intuitive landmarks during spatial navigation. Proceedings of the **Seventh International Conference on Spatial Cognition (ICSC 2018)**, Rome, Italy.
17. Gillepsie, J., Rano, I., Siddique, N., Santos, J.A. and Khamassi, M. (2017). Reinforcement Learning for Bio-Inspired Target Seeking. Proceedings of the **18th Towards Autonomous Robotic Systems Conference (TAROS 2017)**, Guildford, Surrey, UK.
16. Rano, I., Khamassi, M. and Wong-Lin, K. (2017). A Drift Diffusion Model of Biological Source Seeking for Mobile Robots. Proceedings of **2017 IEEE International Conference on Robotics and Automation (ICRA 2017)**, Singapore.
15. Velentzas, G., Tzafestas, C. and Khamassi, M., (2017). Bio-inspired meta-learning for active exploration during non-stationary multi-armed bandit tasks. Proceedings of **IEEE Intelligent Systems Conference 2017**, London, UK.
14. Khamassi, M., Velentzas, G., Tsitsimis, T. and Tzafestas, C. (2017). Active exploration and parameterized reinforcement learning applied to a simulated human-robot interaction task. Proceedings of **IEEE Robotic Computing 2017**, pp. 28-35, Taipei, Taiwan.
13. Aklil, N., Girard, B., Khamassi, M. and Denoyer, L. (2017). Sequential Action Selection for Budgeted Localization in Robots. Proceedings of **IEEE Robotic Computing 2017**, Taipei, Taiwan.
12. Pasala, S.K., Khamassi, M. and Pammi, V.S.C. (2016). Variation in Intuitive Geometric Construct of Spatial Perception during Navigation. Proceedings of the **International Conference of the Academy of Neuroscience for Architecture (ANFA 2016)**, Salk Institute, La Jolla, CA, USA.
11. Renaudo, E., Girard, B., Chatila, C. and Khamassi, M. (2015). Respective advantages and disadvantages of model-based and model-free reinforcement learning in a robotics neuro-

- inspired cognitive architecture. **6th International Conference on Biologically Inspired Cognitive Architectures**, Lyon, France.
10. Renaudo, E., Girard, B., Chatila, C. and Khamassi, M. (2015). Which criteria for autonomously shifting between goal-directed and habitual behaviors in robots? **5th IEEE International Conference on Development and Learning and on Epigenetic Robotics**, Providence, RI, USA.
  9. Renaudo, E., Girard, B., Chatila, C. and Khamassi, M. (2014). Design of a control architecture for habit learning in robots. **3rd Living Machines Conference, Lecture Notes in Artificial Intelligence**, Springer, Publisher.
  8. Bellot, J., Sigaud, O. and Khamassi, M. (2012). Which Temporal Difference Learning algorithm best reproduces dopamine activity in a multi-choice task? **From Animals to Animats 12: SAB Conference, Lecture Note in Computer Science 7426**, Springer Verlag, Publisher, pp. 289-298. BEST PAPER AWARD.
  7. Caluwaerts, K., Favre-Félix, A., Staffa, M., N’Guyen, S., Grand, C., Girard, B. and Khamassi, M. (2012). Neuro-inspired navigation strategies shifting for robots: Integration of a multiple landmark taxon strategy. **1st Living Machines Conference, Lecture Notes in Artificial Intelligence 7375**, Prescott, T.J. et al. (Eds.), Springer, Publisher, pp. 62-73.
  6. Khamassi, M., Quilodran, R., Enel, P., Procyk, E. and Dominey P.F. (2010). A computational model of integration between reinforcement learning and task monitoring in the prefrontal cortex. **From Animals to Animats 11: SAB Conference, Lecture Note in Computer Science 6226**, Springer Verlag, Publisher, pp. 424-434.
  5. Dollé, L., Khamassi, M., Girard, B., Guillot, A. and Chavarriaga, R. (2008) Analyzing interactions between navigation strategies using a computational model of action selection. **Spatial Cognition Conference, Lecture Notes in Computer Science 5248**, Springer, Publisher, pp. 71-86.
  4. Battaglia, F.P., Benchenane, K., Khamassi, M., Peyrache, A. and Wiener, S.I. (2007) Neural ensembles and local field potentials in the hippocampo-prefrontal cortex system during spatial learning and strategy. **1st Int Conference on Cognitive Neurodynamics (ICCN)**, Springer, Publisher, pp. 1-4.
  3. Khamassi, M., Martinet, L.-E. and Guillot, A. (2006). Combining self-organizing maps with mixture of experts: Application to an actor-critic model of reinforcement learning in the basal ganglia. **From Animals to Animats 9, SAB Conference, Lecture Notes in Computer Science 4095**, Springer Verlag, Publisher, pp. 394-405.
  2. Filliat, D., Girard, B., Guillot, A., Khamassi, M., Lachèze, L. and Meyer, J.-A. (2004) State of the artificial rat Psikharpax. **From Animals to Animats 8, SAB Conference**, MIT Press, Publisher, pp. 3-12.
  1. Khamassi, M., Girard, B., Guillot, A. and Berthoz, A. (2004) Comparing three Critic models of reinforcement learning on the basal ganglia connected to a detailed actor in a S-R task. **8th Int Conference on Intelligent autonomous systems**, IOS Press, Publisher, pp. 430-437.

### **Book chapters**

5. Alexandre, F., Dominey, P.F., Gaussier, P., Girard, B., Khamassi, M. and Rougier, N. (2020). When Artificial Intelligence and Computational Neuroscience meet. In Marquis, P., Papini, O. and Prade, H. (Eds.), A guided tour of artificial intelligence research, Vol. 3 Interfaces and applications of artificial intelligence, **Cham, Switzerland: Springer Nature Switzerland**.
4. Khamassi, M. and Decremps, F. (2019). Apprentissage de la démarche scientifique et de l’esprit critique : un enseignement de Sorbonne Université pour les étudiants d’aujourd’hui, citoyens de demain. In Bertezene, S. and Vallat, D. (Eds.), Guider la raison qui nous guide : Agir et penser en complexité, **Caen, France: Management Prospective Editions**.
3. Khamassi, M. and Pacherie, E. (2018). Action. In Collins, T., Andler, D. and Tallon-Baudry, C. (Eds.), La cognition : du neurone à la société, **Paris, France: Gallimard**.
2. Khamassi, M., Wilson, C., Rothé, R., Quilodran, R., Dominey, P.F. and Procyk, E. (2011). Meta-learning, cognitive control, and physiological interactions between medial and lateral prefrontal



cortex. In Mars, R., Sallet, J., Rushworth, M. and Yeung, N. (Eds.), *Neural Bases of Motivational and Cognitive Control*, Cambridge, MA: MIT Press.

1. Battaglia, F.P., Peyrache, A., Khamassi, M. and Wiener, S.I. (2008). Spatial decisions and neuronal activity in hippocampal projection zones in prefrontal cortex and striatum. In Mizumori S. (Ed.) *Hippocampal place fields: Relevance to learning and memory*, Oxford, UK: Oxford University Press.

### **Theses**

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3. Khamassi, M. (2014). Coordination of parallel learning processes in animals and robots. **HDR (Habilitation to Direct Researches) Thesis**, Université Pierre et Marie Curie – Paris 6, France.
2. Khamassi, M. (2007). Complementary roles of the rat prefrontal cortex and striatum in reward-based learning and shifting navigation strategies. **PhD Thesis**, UPMC – Paris 6, France.
1. Khamassi, M. (2003). Une architecture de contrôle de la sélection de l'action dans les ganglions de la base pour le rat artificiel Psikharpax. **Master Thesis**, UPMC – Paris 6, France.

### **Wide-audience scientific communication articles**

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6. Khamassi, M. (2020). La publicité en pleine dérive pavlovienne. "Tribune" (Opinion) in **Libération** (In French)
5. Khamassi, M. & Chatila, R. (2016). La conscience d'une machine. **Interstices**, INRIA. (In French)
4. Khamassi, M. & Decremps, F. (2016). De l'art de conjuguer esprit critique et démarche scientifique. **The Conversation**. Contributions from Marie Pinhas & Fabrice Rousselot. (In French)
3. Khamassi, M. & Chatila, R. (2015). La conscience d'une machine. **Pour la Science**. (In French)
2. Dumas, G., Khamassi, M., N'Diaye, K., Foubert, L., Jouffe, Y. and Roth, C. (2012). La publicité peut avoir des effets nocifs sur la société. "Tribune" (Opinion) in **LeMonde.fr** (In French)
1. Khamassi, M. (2011). Psikharpax, le robot-rat intelligent. **Futura-sciences**. (In both French&English)

### **Papers, abstracts and posters in conferences or workshops with minimal review**

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66. Wittmann, M.K., Fouragnan, E., Folloni, D., Chau, B., Khamassi, M. and Rushworth, M. (2019). Multiple memory traces of choice and reward in macaque frontal cortex. Poster at the Annual Meeting of the **Society for NeuroEconomics**, Dublin, Ireland.
65. Cinotti, F., Girard, B. and Khamassi, M. (2019). Variability and regulation of reinforcement learning processes in rats. Poster at **UK Neural Computation 2019**, Nottingham, UK.
64. Wittmann, M.K., Fouragnan, E., Folloni, D., Chau, B., Khamassi, M. and Rushworth, M. (2019). Multiple memory traces of choice and reward in macaque frontal cortex. **Society for Neurosci Abstracts**, Chicago, USA.
63. Wittmann, M.K., Fouragnan, E., Folloni, D., Chau, B., Khamassi, M. and Rushworth, M. (2019). Multiple memory traces of choice and reward in macaque frontal cortex. Poster at the **9<sup>th</sup> International Symposium on Biology of Decision-Making**, Oxford, UK.
62. Grynspan, O., Mouquet, E., Rushworth, M., Sallet, J. and Khamassi, M. (2018). Computational model of the user's learning process when cued by a social versus non-social agent. **Late Breaking Poster at the 6<sup>th</sup> annual International Conference on Human-Agent Interaction (HAI 2018)**, Southampton, UK.
61. Zaraki, A., Khamassi, M., Wood, L., Lakatos, G., Tzafestas, C., Robins, B. and Dautenhahn, K. (2018). A novel paradigm for children as teachers to the Kaspar robot learner. **BAILAR workshop at the 27<sup>th</sup> IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN 2018)**, Nanjing, China.
60. Khamassi, M., Chalvatzaki, G., Tsitsimis, T., Velentzas, G. and Tzafestas, C. (2018). An extended framework for robot learning during child-robot interaction with human engagement as reward signal. **BAILAR workshop at the 27<sup>th</sup> IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN 2018)**, Nanjing, China.

59. Tsitsimis, T., Velentzas, G., Khamassi, M. and Tzafestas, C. (2017). Online adaptation to human engagement perturbations in simulated human-robot interaction using hybrid reinforcement learning. **MultiLearn workshop at the 25<sup>th</sup> European Signal Processing Conference (EUSIPCO 2017)**, Kos Island, Greece.
58. Lee, B., Gentry, R., Bissonette, G.B., Herman, R.J., Mallon, J.J., Bryden, D.W., Calu, D.J., Schoenbaum, G., Coutureau, E., Marchand, A., Khamassi, M. and Roesch, M.R. (2017). Lengthening the intertrial interval increases sign tracking and dopamine release to conditioned and unconditioned stimuli. **Society for Neurosci Abstracts**, Washington, USA.
57. Cazé, R., Khamassi, M., Doncieux, S. and Girard, B. (2017). The exclusive-or: a key for the reliable propagation of synchronous activity in the hippocampus? Poster at the **Integrated Systems Neuroscience 2017 meeting**, Manchester, UK.
56. Marchand, A., Gentry, R., Khamassi, M., Calu, D., Roesch, M.R. and Coutureau, E. (2017). Dopaminergic control of individual differences in appetitive learning. Poster at the **47<sup>th</sup> Meeting of the European Brain & Behaviour Society**, Bilbao, Spain.
55. Velentzas, G., Tzafestas, C. and Khamassi, M. (2017). Bridging Computational Neuroscience and Machine Learning on Non-Stationary Multi-Armed Bandits. Poster at the **3<sup>rd</sup> International Conference on Reinforcement Learning and Decision Making (RLDM)**, Ann Arbor, USA.
54. Cinotti, F., Fresno, V., Aklil, N., Coutureau, E., Girard, B., Marchand, A.\* and Khamassi, M.\* (2017). Dopamine enables dynamic regulation of exploration. Poster at the **3<sup>rd</sup> International Conference on Reinforcement Learning and Decision Making (RLDM)**, Ann Arbor, USA.
53. Marchand, A., Gentry, R., Khamassi, M., Calu, D., Roesch, M.R. and Coutureau, E. (2017). Neurobehavioral determinants of individual differences in appetitive learning. Poster at **NeuroFrance 2017, Colloquium of the French Neuroscience Society**, Bordeaux, France.
52. Renaudo, E., Girard, B., Chatila, R. and Khamassi, M. (2016). Bio-inspired habit learning in a robotic architecture. **NIPS Workshop on Neurorobotics at NIPS 2016 Conference**.
51. Marchand, A., Coutureau, E., Khamassi, M. and Roesch, M.R. (2016). Neurobehavioral assessment of a computational model of reward learning. Poster at the **Collaborative Research in Computational Neuroscience Conference**, Paris, France.
50. Cinotti, F., Fresno, V., Aklil, N., Coutureau, E., Girard, B., Marchand, A.\* and Khamassi, M.\* (2016). Dopamine blockade affects exploration and learning rate in a non-stationary 3-armed bandit task. Poster at the **Collaborative Research in Computational Neuroscience Conf.**, Paris, France.
49. Bault, N., Larsen, T., Khamassi, M., Polonio, L., Vostroknutov, A. and Coricelli, G. (2016). Influence of others' choice behavior on observational learning. Poster at the **14<sup>th</sup> Annual Meeting of the Society for NeuroEconomics**, Berlin, Germany.
48. Cinotti, F., Fresno, V., Aklil, N., Coutureau, E., Girard, B., Marchand, A.\* and Khamassi, M.\* (2016). Dopamine blockade affects exploration and learning rate in a non-stationary 3-armed bandit task. Poster at the **6<sup>th</sup> International Symposium on Biology of Decision-Making**, Paris, France.
47. Larsen, T., Palminteri, S., Vidal, J.R., Khamassi, M., Joffily, M. and Coricelli, G. (2015). Context can induce seeking behaviour in punishment conditions. Poster at the **13<sup>th</sup> Annual Meeting of the Society for NeuroEconomics**, Miami, U.S.A.
46. Renaudo, E., Devin, S., Girard, B., Chatila, R., Alami, R., Khamassi, M. and Clodic, A. (2015). Learning to interact with humans using goal-directed and habitual behaviors. **Workshop on Learning for Human-Robot Collaboration at RO-MAN 2015 Conference**.
45. Wydoodt, P., Sescousse, G., Domenech, P., Barbalat, G., Khamassi, M. and Dreher, J.-C. (2015). Gambler's fallacy and hot hand fallacy in pathological gamblers. Poster at the **5<sup>th</sup> International Symposium on Biology of Decision-Making**, Paris, France.
44. Marchand, A., Fresno, V., Aklil, N., Cinotti, F., Girard, B., Khamassi, M. and Coutureau, E. (2015). Striatal dopamine controls exploration in a probabilistic task. Poster at the **5<sup>th</sup> International Symposium on Biology of Decision-Making**, Paris, France.

43. Griessinger, T., Khamassi, M. and Coricelli, G. (2015). A behavioral investigation of inter-individual differences in learning during repeated strategic interactions. Poster at the **5<sup>th</sup> International Symposium on Biology of Decision-Making**, Paris, France.
42. Girard, B., Aklil, N., Cinotti, F., Fresno, V., Denoyer, L., Coutureau, E., Khamassi, M. and Marchand, A. (2015). Modelling rat learning behavior under uncertainty in a non-stationary multi-armed bandit task. Poster at the **Colloque de la Société des Neurosciences Françaises**, Montpellier, France.
41. Viejo, G., Khamassi, M., Brovelli, A. and Girard, B. (2015). Modelling choice and reaction time during instrumental learning through the coordination of adaptive working-memory and reinforcement learning. Poster at the **Colloque de la Société des Neurosciences Françaises**, Montpellier, France.
40. Liénard, J., Bellot, J., Cos, I., Khamassi, M. and Girard, B. (2015). Transmission delays in the basal ganglia proper are sufficient to explain beta-band oscillations in Parkinson's disease: mean-field and reduced models. **iCODE-SynchNeuro Workshop on neural population dynamics**, France.
39. Lesaint, F., Sigaud, O. and Khamassi, M. (2014). A model of negative automaintenance in pigeons: Dual learning and factored representations. **Society for Neurosci Abstracts**, Washington, USA.
38. Bellot, J., Liénard, J., Khamassi, M. and Girard, B. (2014). A biological plausible D1/D2 basal ganglia model. **Society for Neurosci Abstracts**, Washington, USA.
37. Lesaint, F., Sigaud, O. and Khamassi, M. (2014). Accounting for negative automaintenance in pigeons: A dual learning systems approach and factored representations. Poster at the **4<sup>th</sup> International Symposium on Biology of Decision-Making**, Paris, France.
36. Aklil, N., Marchand, A., Fresno, V., Coutureau, E., Denoyer, L., Girard, B. and Khamassi, M. (2014). Modelling rat learning behavior under uncertainty in a non-stationary multi-armed bandit task. Poster at the **4<sup>th</sup> International Symposium on Biology of Decision-Making**, Paris, France.
35. Viejo, V., Khamassi, M., Brovelli, A. and Girard, B. (2014). Modelling choice and reaction time during instrumental learning through the coordination of adaptive working-memory and reinforcement learning. Poster at the **4<sup>th</sup> International Symposium on Biology of Decision-Making**, Paris, France.
34. Viejo, V., Khamassi, M., Brovelli, A. and Girard, B. (2014). Coordination of adaptive working-memory and reinforcement learning systems explaining choice and reaction time during a human experiment. Poster at the **23<sup>rd</sup> Computational Neuroscience Society meeting (CNS 2014)**.
33. Marchand, A., Fresno, V., Khamassi, M. and Coutureau, E. (2014). Dopaminergic modulation of the exploration level in a non-stationary probabilistic task. **FENS Abstract**, Milan, Italy.
32. Palminteri, S., Khamassi, M., Joffily, M. and Coricelli, G. (2013). Reinforcement learning and counterfactual outcomes: evidence for context-value dependent adjustment of action values. Poster at the **Society for Neuroeconomics Annual Meeting**, Lausanne, Switzerland.
31. Lesaint, F., Sigaud, O., Flagel, S.B., Robinson, T.E. and Khamassi, M. (2013). Modelling individual differences in rats using a dual learning systems approach and factored representations. Poster at the **5<sup>th</sup> International Symposium on Motivational and Cognitive Control**, ICM, Paris, France.
30. Humphries, M.D., Khamassi, M. and Gurney, K. (2013). Dopaminergic control of the exploration-exploitation trade-off via the basal ganglia. Poster at the **3<sup>rd</sup> International Symposium on Biology of Decision-Making**, Paris, France.
29. Lesaint, F., Sigaud, O. and Khamassi, M. (2013). Modelling individual differences in rats using a dual learning systems approach and factored representations. Poster at the **3<sup>rd</sup> International Symposium on Biology of Decision-Making**, Paris, France.
28. Bellot, J., Sigaud, O., Girard, B. and Khamassi, M. (2013). Which Temporal Difference Learning algorithm best reproduces dopamine activity in a multi-choice task? Poster at the **3<sup>rd</sup> International Symposium on Biology of Decision-Making**, Paris, France.
27. Lesaint, F., Sigaud, O., Flagel, S.B., Robinson, T.E. and Khamassi, M. (2013). Modelling individual differences observed in Pavlovian autoshaping in rats using a dual learning systems approach and factored representations. Poster at the **1<sup>st</sup> International Conference on Reinforcement Learning and Decision Making (RLDM)**, Princeton Univ., USA.

26. Bellot, J., Khamassi, M., Sigaud, O. and Girard, B. (2013). Which Temporal Difference Learning algorithm best reproduces dopamine activity in a multi-choice task? Poster at the **22<sup>nd</sup> Computational Neuroscience Society meeting (CNS 2013)**, Paris, France.
25. Khamassi, M., Bellot, J., Sigaud, O. and Girard, B. (2013). Which Temporal Difference Learning algorithm best reproduces dopamine activity in a multi-choice task? Poster at the **Colloquium of the French Neuroscience Society**, Lyon, France.
24. Bellot, J., Sigaud, O. and Khamassi, M. (2012). Which Temporal Difference Learning algorithm best reproduces dopamine activity in a multi-choice task? Poster at the **4<sup>th</sup> Robotics and Neuroscience Days**, Paris, France.
23. Caluwaerts, K., Staffa, M., N'Guyen, S., Grand, C., Dollé, L., Favre-Félix, A., Girard, B. and Khamassi, M. (2012). A biologically inspired meta-control navigation system for the Psikharpax rat robot. Poster at the **2<sup>nd</sup> International Symposium on Biology of Decision-Making**, Paris, France.
22. Bellot, J., Sigaud, O. and Khamassi, M. (2012). Which Temporal Difference Learning algorithm best reproduces dopamine activity in a multi-choice task? Poster at the **2<sup>nd</sup> International Symposium on Biology of Decision-Making**, Paris, France.
21. Khamassi, M., Lallée, S., Enel, P., Procyk, E. and Dominey P.F. (2012). Robot cognitive control with a neurophysiologically inspired reinforcement learning model. Poster at the **2<sup>nd</sup> International Symposium on Biology of Decision-Making**, Paris, France.
20. Bellot, J., Sigaud, O., Roesch, M.R., Schoenbaum, G., Girard, B. and Khamassi, M. (2012). Dopamine neurons activity in a multi-choice task: reward prediction error or value function? Full paper at the **French Computational Neuroscience NeuroComp / KEOps 12 workshop**, pp. 1-7, Bordeaux, France.
19. Humphries, M.D., Khamassi, M. and Gurney, K. (2012). Dopaminergic control of the exploration-exploitation trade-off via the basal ganglia. Poster at **FENS Forum**, Barcelona, Spain.
18. Khamassi, M., Lallée, S., Enel, P., Procyk, E. and Dominey, P.F. (2011). Human-Robot Interaction with the iCub Humanoid Robot using a Neuro-Inspired Model of Reinforcement Learning. Full paper + poster at **International workshop on bio-inspired robots**, Nantes, France.
17. Caluwaerts, K., Grand, C., N'Guyen, S., Dollé, L., Guillot, A. and Khamassi, M. (2011). Design of a biologically inspired navigation system for the Psikharpax rodent robot. Full paper + poster at **International workshop on bio-inspired robots**, Nantes, France.
16. Khamassi, M., Quilodran, R., Enel, P., Dominey P.F. and Procyk, E. (2010). Role of the frontal cortex in solving the exploration-exploitation trade-off. Poster at the **4<sup>th</sup> International Symposium on Motivational and Cognitive Control**, Oxford, UK.
15. Khamassi, M., Quilodran, R., Enel, P., Dominey P.F. and Procyk, E. (2010). Role of the frontal cortex in solving the exploration-exploitation trade-off. Full paper at the **5<sup>th</sup> French Neurocomp Conference**, Lyon, France.
14. Enel, P., Khamassi, M., Procyk, E. and Dominey P.F. (2010). Reinforcement learning model in probabilistically rewarded task. Poster at the **5<sup>th</sup> Neurocomp Conference**, Lyon, France.
13. Benchenane, K., Peyrache, A., Khamassi, M., Wiener, S.I. and Battaglia, F.P. (2010). Coherent oscillations and learning-related reorganization of spike timing. Poster at the **4<sup>th</sup> International Conference on Cognitive Systems, CogSys10**. January 27 & 28, 2010, ETH Zurich, Switzerland.
12. Khamassi, M., Quilodran, R., Procyk, E. and Dominey P.F. (2009). Anterior Cingulate Cortex integrates reinforcement learning and task-monitoring: evidence from computational modelling, neural network simulation and primate neurophysiology. **Society for Neuroscience Abstracts**, Chicago, USA.
11. Khamassi, M., Mulder, A.B., Tabuchi, E., Douchamps, V. and Wiener S.I. (2007). Actor-Critic models of reward prediction signals in the rat ventral striatum require multiple input modules. **Society for Neuroscience Abstracts**, San Diego, USA.
10. Peyrache, A., Benchenane, K., Khamassi, M., Douchamps, V., Tierney, P.L., Battaglia, F.P. and Wiener, S.I. (2007). Rat medial prefrontal cortex neurons are modulated by both hippocampal theta rhythm and sharp waveripple events. **Society for Neuroscience Abstracts**, San Diego, USA.

9. Benchenane, K., Peyrache, A., Khamassi, M., Tierney, P.L., Douchamps, V., Battaglia, F.P. and Wiener, S.I. (2007). Increased firing rate and theta modulation in medial prefrontal neurons during episodes of high coherence in the theta band of hippocampal/prefrontal local field potentials (LFP) in behaving rats. **Society for Neuroscience Abstracts**, San Diego, USA.
8. Battaglia, F.P., Peyrache, A., Benchenane, K., Khamassi, M., Douchamps, V., Tierney, P.L. and Wiener, S.I. (2007). Rat medial prefrontal cortex neurons are modulated by both hippocampal theta rhythm and sharp waveripple events. **Society for Neuroscience Abstracts**, San Diego, USA.
7. Khamassi, M., Battaglia, F.P., Peyrache, A., Douchamps, V., Tierney, P. and Wiener S.I. (2007). Transitions in behaviorally correlated activity in medial prefrontal neurons of rats acquiring and switching strategies in a y-maze. Poster presented at the **Okinawa Computational Neuroscience Workshop**, Okinawa, Japan.
6. Battaglia, F.P., Khamassi, M., Peyrache, A., Douchamps, V., Tierney, P. and Wiener, S.I. (2006). Spatial and reward correlates in medial prefrontal neurons of rats acquiring and switching strategies in a y-maze. **Society for Neuroscience Abstracts**, Atlanta, USA.
5. Wiener, S.I., Khamassi, M., Peyrache, A., Douchamps, V., Tierney, P. and Battaglia, F.P. (2006). Transitions in behaviorally correlated activity in medial prefrontal neurons of rats acquiring and switching strategies in a y-maze. **Society for Neuroscience Abstracts**, Atlanta, USA.
4. Battaglia, F.P., Khamassi, M., Douchamps, V., Tierney, P.L. and Wiener, S.I. (2005). EEG correlations between hippocampus and prefrontal cortex in rats performing a decision-making spatial task. **Society for Neuroscience Abstracts**, Washington DC, USA.
3. Mulder, A.B., Tabuchi, E., Khamassi, M. and Wiener S.I. (2005). Reward site associated activity in the ventral striatum of behaving rats. **Society for Neuroscience Abstracts**, Washington DC, USA.
2. Wiener, S.I., Arleo, A., Déjean, C., Boucheny, C., Khamassi, M. and Zugaro, M.B. (2004). Optic field flow signals update the activity of head direction cells in the rat anterodorsal thalamus. **Society for Neuroscience Abstracts**, San Diego, USA.
1. Khamassi, M., Girard, B., Guillot, A. and Berthoz, A. (2003). Mécanismes neuromimétiques d'apprentissage par renforcement dans l'architecture de contrôle du rat artificiel Psikharpa. Poster presented at the **French Conference on Artificial learning (CAp) within the frame of the AFIA platform**, Laval, France.

#### Invited talks and seminars

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2021	School of Psychology, University of <b>Plymouth, UK</b>
2021	Symposium at the French Neuroscience Society Colloquium, <b>Strasbourg, France</b>
2021	16 <sup>th</sup> International Conf. on Simulation of Adaptive Behavior (Keynote), <b>Cergy, France</b>
2021	Symposium at the National GDR Neurosciences de la Mémoire, <b>Toulouse, France</b>
2020	9 <sup>th</sup> Intern. Conf. on Theory&Practice of Natural Comput. (Keynote), <b>Taoyuan, Taiwan</b>
2020	Brain-inspired perception, interaction & learning workshop, IEEE ICRA, <b>Paris, France</b>
2019	12 <sup>th</sup> Barcelona, Cognition, Brain & Technology Summerschool, <b>Barcelona, Spain</b>
2019	5 <sup>th</sup> International NeuroBridges Summerschool, ENSAM, Abbaye de <b>Cluny, France</b>
2019	Biomedical Research Foundation of the Academy of <b>Athens, Greece</b>
2019	4 <sup>th</sup> Quadrennial Meeting on OFC function, ICM, <b>Paris, France</b>
2019	BRAINCONF 2019, Bordeaux Neurocampus, <b>Bordeaux, France</b>
2019	Maersk Mc-Kinney Moller Institute, <b>Odense</b> , University of Southern <b>Denmark</b>
2019	Institut des Neurosciences de la Timone, CNRS, <b>Marseille, France</b>
2019	Hippocampal replay symposium, Sorbonne Université, <b>Paris, France</b>
2018	EBPS Computational Psychiatry Workshop, University of <b>Cambridge, UK</b>
2018	6 <sup>th</sup> Intern. Meeting on Comp. Properties of Prefrontal Cortex, <b>Vanderbilt Univ., USA</b>
2018	Spatial Navigation in Comput. Neurosci. & Neurorobotics workshop, <b>Lyon, France</b>
2018	Medial Prefrontal Cortex workshop, CNRS INCIA, <b>Bordeaux, France</b>
2018	Zugaro Lab, Center for Interdisciplin. Res. in Biology, Collège de France, <b>Paris, France</b>
2018	Ethics Workshop on Autism/Child-Robot Interaction, De Monfort Univ., <b>Leicester, UK</b>
2018	Walton Lab, Department of Experimental Psychology, University of <b>Oxford, UK</b>

2018 Decision-making mini-symposium, Ecole Normale Supérieure, **Paris, France**

2017 Intelligent Systems Research Centre, Ulster University, **Derry, Northern Ireland, UK**

2017 Panel at the 50<sup>th</sup> Winter Conference on Brain Research, **Big Sky, USA**

2017 Symposium at the French Neuroscience Society Colloquium, **Bordeaux, France**

2017 SMART Summer School in Comput. Social & Behav. Sciences, UPMC, **Paris, France**

2016 Dept. Electrical & Computer Engineering, Tarbiat Modares University, **Teheran, Iran**

2016 Department of Experimental Psychology, University of **Oxford, UK**

2016 “Addiction, in theory” meeting, Gatsby Unit, University College **London, UK**

2016 6<sup>th</sup> International Symposium on Motivational and Cognitive Control, **St Andrews, UK**

2016 Inst. Com. & Computer Systems, National Polytechnical University of **Athens, Greece**

2016 6<sup>th</sup> International Symposium on Biology of Decision-Making, **Paris, France**

2016 5<sup>th</sup> International Meeting on Comput. Properties of Prefrontal Cortex, **Lyon, France**

2016 15<sup>th</sup> National Forum of Cognitive Sciences, Univ. Paris Descartes 5, **Paris, France**

2016 Symposium at the National GDR Neurosciences de la Mémoire, **Bordeaux, France**

2015 3<sup>rd</sup> International Conf. on Cognition, Brain & Comput. (Plenary), **Ahmedabad, India**

2015 International Conf. on Computational Intelligence (Keynote), **Visakhapatnam, India**

2015 International Conf. on Cognition in Smart Cities (Keynote), **Vizag, India**

2015 International NeuroBridges Workshop, Univ. Paris Descartes, **Paris, France**

2015 1<sup>st</sup> Computational Neuroscience Symposium at UPMC, **Paris, France**

2015 Computational Neuroscience Seminars, Ecole Normale Supérieure Ulm, **Paris, France**

2014 Symposium at International Cognitive Neuroscience Conference, **Brisbane, Australia**

2013 Brain & Language Research Institute, CNRS, **Avignon, France**

2013 5<sup>th</sup> International Symposium on Motivational and Cognitive Control, **Paris, France**

2013 Center for Mind/Brain Sciences, University of **Trento, Italy**

2013 Centre de Neurosciences Cognitives, CNRS, **Lyon, France**

2012 GDR Colloquium, Institut des Neurosciences de la Timone, CNRS, **Marseille, France**

2012 Basal Ganglia Days, Institut du Cerveau et de la Moëlle Epinière, **Paris, France**

2012 Neuromorphic Engineering Workshop/Summerschool, **Telluride, USA**

2011 International Conference on Decision Making, **Allahabad, India**

2011 National Days on Humanoid Robotics Research, LAAS, **Toulouse, France**

2010 Institut des Neurosciences Cognitives de la Méditerranée CNRS, **Marseille, France**

2010 Laboratoire de Recherche en Informatique, Univ. Paris-Sud 11, **Orsay, France**

2010 Computational Neuroscience Day, Ecole Normale Supérieure Ulm, **Paris, France**

2010 Centre de Recherche en Neurosciences de Lyon, INSERM, **Lyon, France**

2009 Laboratoire de Neurosciences Cognitives, Ecole Normale Supérieure, **Paris, France**

2009 Laboratoire de Robotique GREYC, Université de **Caen, France**

2008 Symposium at the National GDR Neurosciences de la Mémoire, **Aussois, France**

2008 Institut Cellules Souches et Cerveau, INSERM, **Lyon, France**

2008 Okinawa Institute of Science and Technology, **Okinawa, Japan**

2007 Third day in Computational Neuroscience, Collège de France, **Paris, France**

2006 “ICEA” FP6 European project workshop, **Derby, UK**

2004 Graduate School of Medicine, University of Toyama, **Toyama, Japan**

2004 Ecole Supérieure de Physique et Chimie Industrielles, **Paris, France**

### Scientific events organized

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Since 2012 **2<sup>nd</sup> - 10<sup>th</sup> International Symposia on Biology of Decision-Making (SBDM)**, Paris/Bordeaux, France / Oxford, UK. Co-organizers: T. Boraud, K. Doya, E. Koehlin, M. Pessiglione, M. Rushworth, J. Sallet, C. Summerfield. Former co-organizers: S. Bourgeois-Gironde, N. Rougier. Current chairs: A. Bell, M. Klein-Flügge, N. Kolling, P. Lockwood, J. O’Reilly, M. Walton. Former chairs: A. Christakou, L. Fellows, C. Summerfield, M. Teschl. 200 participants, 30 speakers, 80 posters. *Top-level meeting*

- in the field.*
- Since 2012 **12 “Robotics and Neuroscience” days**, Paris area, France, for the French Neuroscience and Robotics communities, in the framework of the CNRS Groupements de Recherches (GDRs) Robotics and Neuroscience of Memory. Co-organizers: Benoît Girard, Xavier Hinaut, Ghilès Mostafaoui, Alex Pitti, Olivier Sigaud, Philippe Souères, Céline Teulière. 40 participants on average. (11/12, 11/12, 03/14, 10/15, 04/16, 06/16, 11/17, 05/18, 11/18, 05/19, 11/19, 07/20)
- 2020 **4<sup>th</sup> Behavior Adaptation, Interaction and Learning for Assistive Robotics Workshop (BAILAR)** at the RO-MAN Conference, Naples, Italy. Co-organizers: M. Staffa, D. Conti, F. Cordella, S. Rossi. Former co-organizers: R. Chellali, B. Siciliano.
- 2019 **4<sup>th</sup> Orbitofrontal Cortex and Cognition Meeting (OFC)**, Paris, France. Co-organizers: Jay Gottfried, Elisabeth Murray, Mathias Pessiglione, Geoffrey Schoenbaum. *Top-level meeting in the field.*
- 2018 **3<sup>rd</sup> Behavior Adaptation, Interaction and Learning for Assistive Robotics Workshop (BAILAR)** at the RO-MAN Conference, Nanjing, China. Co-organizers: M. Staffa, D. Conti. Former co-organizers: R. Chellali, S. Rossi, B. Siciliano.
- 2017 **Symposium at the Colloquium of the French Neuroscience Society**, Bordeaux, France. Theme: Contextual modulation of value signals: Basal Ganglia across species. Co-organizer: Mathias Pessiglione. 100 participants, 5 speakers.
- 2016 **From Artificial Intelligence to Neuroscience, and back** workshop at the Collaborative Research in Computational Neuroscience Conference, Paris, France. Co-organizers: S. Gershman and B. Gutkin. 50 participants, 4 speakers.
- 2015 **3<sup>rd</sup> Orbitofrontal Cortex and Cognition Meeting**, Paris, France. Co-organizers: Jay Gottfried, Elisabeth Murray, Mathias Pessiglione, Geoffrey Schoenbaum. 150 participants, 30 speakers, 50 posters. *Top-level meeting in the field.*
- 2015 **Scientific Day around Intellectica journal Issue #61**, co-organized with Alexandre Monnin and Gunnar Declerck, CNRS-ISCC, Paris, France. 20 participants.
- 2013 **Symposium at the Colloquium of the French Neuroscience Society**, Lyon, France. Theme: Neural dynamics of spatial navigation: electrophysiological data and computational models. Co-organizers: Francesca Sargolini, Bruno Poucet. 50 particip.
- 2013 **Interdisciplinary day** (Philosophy, Robotics, Biology) on Cognition, Adaptation and Complexity: From Living Beings to Robots, Paris-Sorbonne University, France, April 11. Principal organizer: Thomas Pradeu. 50 participants.
- 2005 **National Cognitive Science Forum** gathering laboratories, companies and students, concerned with cognitive science. Co-organizers: board members of Cognivence association.
- 2004 **Paris-area Regional Cognitive Science Forum** gathering laboratories, companies and students, concerned with cognitive science. Co-organizers: Vincent Jacob, board members of Cognivence association.
- 2004 **Regional workshop for the French “États Généraux de la Recherche”** (CloEG Paris-Centre; June 21, 27 and 28, 2004). Co-organizers: Marie-Pierre Junier, Catherine Dargemont.

### Student supervision

#### Current PhD students

- Since 2020 **Camille Lakhlifi**, co-supervised with Benjamin Rohaut (APHP / Sorbonne Université) and (Haute Autorité de Santé). CIFRE / FIRE Doctoral Program.
- Since 2019 **Elias Aoun Durand**, co-supervised with Mateus Joffily (CNRS-GATE / Sorbonne Université). Neuroscience Program.
- Since 2019 **Elisa Massi**, co-supervised with Benoît Girard (ISIR Sorbonne Université). Robotics program.
- Since 2019 **Leïla Abbih**, co-supervised with Ouriel Grynszpan (LIMSI, Univ. Paris Saclay).

- Computer Science Program.
- Since 2018 **Sami Beaumont**, co-supervised with Philippe Domenech (ICM Sorbonne Université). Neuroscience Program.
- Since 2017 **Rémi Dromnelle**, co-supervised with Raja Chatila & Benoît Girard (ISIR Sorbonne Université). Robotics Program.

#### Past PhD students

- 2016-2019 **Dr. François Cinotti**, co-supervised with Benoît Girard (ISIR Sorbonne Université). Neuroscience Program. Now post-doc at the University of Nottingham.
- 2013-2017 **Dr. Thibaud Griessinger**, co-supervised with Giorgio Coricelli (Ecole Normale Supérieure, UPMC, U Trento, U Southern California). Now in the private sector.
- 2013-2017 **Dr. Nassim Aklil**, co-supervised with Ludovic Denoyer (LIP6 UPMC) and Benoît Girard (ISIR UPMC). Robotics Program. Now in the private sector.
- 2013-2016 **Dr. Guillaume Viejo**, co-supervised with Benoît Girard (ISIR Université Pierre et Marie Curie - Paris 6). Neuroscience Program. Now post-doc at McGill University.
- 2012-2016 **Dr. Erwan Renaudo**, co-supervised with Raja Chatila & Benoît Girard (ISIR UPMC - Paris 6). Robotics Program. Now post-doc at Innsbruck University.
- 2011-2015 **Dr. Jean Bellot**, co-supervised with Benoît Girard (ISIR Université Pierre et Marie Curie - Paris 6). Neuroscience Program. Now working at HEURITECH.
- 2011-2014 **Dr. Florian Lesaint**, co-supervised with Olivier Sigaud (ISIR Université Pierre et Marie Curie - Univ. Paris 6). Computer Science Program. Now working at DEEZER.

#### Past Post-doctoral fellows

- 2016-2018 **Dr. Romain Cazé**, co-supervised with Benoît Girard (ISIR Université Pierre et Marie Curie - Paris 6). Now assistant professor at the University of Lille.
- 2012-2013 **Dr. Ignasi Cos**, co-supervised with Benoît Girard (ISIR Université Pierre et Marie Curie - Paris 6). Now Marie-Curie research fellow at Pompeu Fabra University, Barcelona.

#### Current & Past undergraduate students

- 2020 **Thomas Misiak** (M2 Cogmaster, Paris Sciences Lettres).
- 2020 **Juliane Mailly** (M1 Cogmaster, Université de Paris).
- 2020 **Patricia Rinke** (M2 Cogmaster ENS). Now in the private sector.
- 2020 **Roy Tal** (M2 Cogmaster ENS). Now in the private sector.
- 2019 **Guillaume Pourcel** (M2 Cogmaster ENS). Now 3<sup>rd</sup> year student in engineering school.
- 2019 **Leïla Abbih** (M2 Cogmaster ENS). Now PhD student in the team.
- 2019 **Maria Tsfasman** (Master Artificial Intelligence, Radboud Univ, The Netherlands).
- 2018 **Paul Berton** (M1 Cogmaster EHESS). Now M2 Cogmaster student.
- 2018 **Esther Mouquet** (M2 Cogmaster EHESS) co-supervised with Ouriel Grynszpan (ISIR). Now in the private sector.
- 2017 **Eleonore Schiltz** (L3 student Bio/Maths UPMC). Now M2 Cogmaster student.
- 2017 **George Velentzas** (engineering student, National Technical University of Athens (NTUA), Greece) co-supervised with Costas Tzafestas (NTUA). Now master student.
- 2017 **Theodore Tsitsimis** (engineering student, NTUA, Greece) co-supervised with Costas Tzafestas (NTUA). Now in the private sector.
- 2016 **Avel Guénin--Carlut** (M1 master student ENS). Now Cogmaster student.
- 2016 **Anne Chadoeuf** (M2 Cogmaster ENS) co-supervised with Benoît Girard (ISIR Université Pierre et Marie Curie - Paris 6). Now in the private sector.
- 2015 **Pierre Luce-Vayrac** (M2 Androide UPMC) co-supervised with Raja Chatila (ISIR Université Pierre et Marie Curie - Paris 6). Now PhD student in the team.
- 2015 **François Cinotti** (M2 Cogmaster ENS) co-supervised with Benoît Girard (ISIR Université Pierre et Marie Curie - Paris 6). Now post-doc at Nottingham Univ., UK.
- 2015 **Rémi Dromnelle** (M1 student in Bio-informatics at University Denis Diderot – Paris



- 7). Now PhD student in the team.
- 2013 **Timothée Dubuc** (M2 student), co-supervised with Arthur Leblois and Olivier Sigaud (ISIR Univ Paris 6). Now PhD student at the University of Reading, UK.
- 2013 **Omar Islas-Ramirez** (M2 master student), co-supervised with Benoît Girard (ISIR UMR7222, Université Paris 6). Now PhD student at UPMC.
- 2013 **Sana Bahri** (engineering student), co-supervised with Benoît Girard (ISIR Univ. Paris 6). Now in the private sector.
- 2013 **Nassim Aklil** (M2 student in Bioinformatics at UPMC), co-supervised with Benoît Girard (ISIR UPMC). Did a Phd in the team. Now in the private sector.
- 2013 **Guillaume Viejo** (M2 student in Computer Science at UPMC), co-supervised with Benoît Girard (ISIR UPMC). Did a Phd in the team. Now post-doc at McGill Univ.
- 2012 **Erwan Renaudo** (M2 master student), co-supervised with Benoît Girard (6 months internship, ISIR UPMC). Did a Phd in the team. Now post-doc at Innsbruck University.
- 2011 **Sélim Khamassi** (engineering student), co-supervised with Benoît Girard (2 months internship, ISIR, Univ. Paris 6). Now engineer working for AIRBUS.
- 2011 **Valère Pique** (licence student), co-supervised with Benoît Girard (2 months internship, ISIR, Univ. Paris 6). Now in the private sector.
- 2011 **Antoine Favre-Félix** (engineering student), co-supervised with Benoît Girard (2 months internship, ISIR Univ. Paris 6). Now in the private sector.
- 2011 **Mariacarla Staffa** (graduate student), PhD 4m. internship co-supervised with Agnès Guillot (ISIR Univ. Paris 6). Now Assistant Professor at Univ. Naples Federico II.
- 2010 **Ken Caluwaerts** (M2 master student), co-supervised with Agnès Guillot and Christophe Grand (ISIR Univ. Paris 6). Now Post-doc fellow at NASA, USA.
- 2009 **Pierre Enel** (M2 master student), co-supervised with Emmanuel Procyk and Peter F. Dominey (INSERM - Univ. Lyon 1). Now Post-doc at Mount-Sinai, NYC.
- 2007 **Manuel Rolland** (engineering student), co-supervised with Agnès Guillot (, ISIR, Univ. Paris 6). Now works at Aldebaran Softbank Robotics.
- 2006 **Laurent Dollé** (M2 master student), co-supervised with Agnès Guillot (LIP6, Univ. Paris 6). Did a Phd in the team. Now R&D engineer at CEA.
- 2006 **Anthony Truchet** (M2 master student), co-supervised with Agnès Guillot (LIP6, Univ. Paris 6). Then PhD student at ENSTA. Now working at CRITEO.
- 2005 **Louis-Emmanuel Martinet** (engineering student) co-supervised with Agnès Guillot (LIP6, Univ. Paris 6). Now post-doc fellow at Boston University.
- 2005 **Laurent Dollé** (M1 master student), co-supervised with Agnès Guillot (LIP6, Univ. Paris 6). Did a Phd in the team. Now R&D engineer at CEA.
- 2005 **Vincent Douchamps** (M2 master student), co-supervised with Sidney Wiener (LPPA, Collège de France). Now post-doc fellow at Durham University.
- 2004 **Paul Simard** (M2 master student), co-supervised with Agnès Guillot (LIP6, Univ. Paris 6). Now R&D engineer at Dassault Systems.

#### **PhD & HDR theses evaluation committees (HDR = Habilitation/Entitlement to Direct Researches)**

- 2021 Reviewer for the jury of **Alexandre Zenon's HDR thesis**, Université de Bordeaux, France.
- 2020 Examiner for the jury of **Philippe Domenech's HDR thesis**, Sorbonne Université, Paris, France.
- 2020 President of the jury of **Céline Boucly's PhD thesis** (supervisor: Michael Zugaro), Sorbonne Université, Paris, France.
- 2020 Member of the jury of **Nicolas Clairis' PhD thesis** (supervisor: Mathias Pessiglione), Sorbonne Université, Paris, France.
- 2020 Member of the jury of **Lindsay Rondot' PhD thesis** (supervisor: Philippe Domenech), Sorbonne Université, Paris, France.
- 2020 Examiner for **Gustavo Assunção's PhD mid-term evaluation committee** (supervisors:

- Paulo Menezes & Miguel Castelo Branco), Universidade de Coimbra, Portugal.
- 2020 Examiner for **Jun Seok Lee's PhD mid-term evaluation committee** (supervisor: Valentin Wyart), Sorbonne Université, France.
- 2019 Examiner for the jury of **Boris Gourevitch's HDR thesis**, Sorbonne Université, Paris, France.
- 2019 President of the jury of **Douglas Lee's PhD thesis** (supervisor: Jean Daunizeau), Sorbonne Université, Paris, France.
- 2019 President of the jury of **Chen Hu's PhD thesis** (supervisor: Mathias Pessiglione), Sorbonne Université, Paris, France.
- 2019 President of the jury of **Maxime Maheu's PhD thesis** (supervisors: Stanislas Dehaene & Florent Meyniel), Ecole Normale Supérieure, Paris, France.
- 2019 Examiner for the jury of **Tianyi Li's PhD thesis** (supervisors: Angelo Arleo & Denis Sheynikhovich), Sorbonne Université, Paris, France.
- 2019 Examiner for the jury of **Noemi Montobbio's PhD thesis** (supervisors: Alessandro Sarti & Giovanna Citti), Sorbonne Univ, Paris, France / Università di Bologna, Italy.
- 2019 Examiner for the jury of **Barghav Teja Nallapu's PhD thesis** (supervisor: Frédéric Alexandre), Université Bordeaux 2, Paris, France.
- 2019 Examiner for **Kevin Hoang's PhD mid-term evaluation committee** (supervisors: Alex Pitti & Philippe Gaussier), Université Cergy-Pontoise, France.
- 2019 Examiner for **Céline Boucly's 2<sup>nd</sup> PhD mid-term evaluation committee** (supervisors: Michael B. Zugaro & Sidney I. Wiener), Sorbonne Université, Paris, France.
- 2019 Examiner for **Oriana Lavielle's PhD mid-term evaluation committee** (supervisor: Eric Burguière), Sorbonne Université, Paris, France.
- 2019 Examiner for **Lisa Jacquy's PhD 3<sup>rd</sup> mid-term evaluation committee** (supervisors: Rana Essely & Kevin O'Regan), Université Paris Descartes, France.
- 2018 Reviewer for the jury of **Florent Meyniel's HDR thesis**, Ecole Normale Supérieure, Paris, France.
- 2018 Member of the jury of **Irene Cogliati-Dezza's PhD thesis** (supervisors: Axel Cleeremans & William Alexander), Université Libre de Bruxelles, Belgium.
- 2018 Examiner for the jury of **Germain Lefebvre's PhD thesis** (supervisors: Stefano Palminteri & Sacha Bourgeois-Gironde), Ecole Normale Supérieure, Paris, France.
- 2018 Reviewer for the jury of **Pierre-Emmanuel Wulfman's post-grad University Research Diploma (DUR) thesis** (supervisors: Ryad Benosman & Sio Hoi-leng), SU, Paris, France.
- 2018 Examiner for **Lisa Jacquy's PhD 2<sup>nd</sup> mid-term evaluation committee** (supervisors: Rana Essely & Kevin O'Regan), Université Paris Descartes, France.
- 2018 Examiner for **Chen Hu's 2<sup>nd</sup> PhD mid-term evaluation committee** (supervisor: Mathias Pessiglione), Sorbonne Université, Paris, France.
- 2018 Examiner for **Céline Boucly's PhD mid-term evaluation committee** (supervisors: Michael B. Zugaro & Sidney I. Wiener), Sorbonne Université, Paris, France.
- 2017 Examiner for the jury of **Virginie Oberto's PhD thesis** (supervisor: Sidney I. Wiener), Collège de France / UPMC, Paris, France.
- 2017 Reviewer for the jury of **Pierre Delarboulas's PhD thesis** (supervisor: Mathias Quoy), Univ. Cergy-Pontoise, Cergy, France.
- 2017 Reviewer for the jury of **Arthur Prat-Carrabin's PhD thesis** (supervisor: Rava da Silveira), Ecole Normale Supérieure, Paris, France.
- 2017 Examiner for the jury of **Gabriel Sulem's PhD thesis** (supervisor: Etienne Koechlin), Ecole Normale Supérieure / UPMC, Paris, France.
- 2017 Examiner for **Lisa Jacquy's PhD mid-term evaluation committee** (supervisor: Rana Essely & Kevin O'Regan), Université Paris Descartes, France.
- 2017 Examiner for **Chen Hu's PhD mid-term evaluation committee** (supervisor: Mathias Pessiglione), Université Pierre et Marie Curie, Paris, France.
- 2017 Examiner for **Hakim Guedjou's PhD mid-term evaluation committee** (supervisor:

- Mohamed Chetouani), Université Pierre et Marie Curie, Paris, France.
- 2016 Reviewer for the jury of **Emilio Cartoni's PhD thesis** (supervisor: Gianluca Baldassarre), Università degli Studi di Roma " La Sapienza", Rome, Italy.
- 2016 Examiner for the jury of **Steve Didienne's PhD thesis** (supervisor: Philippe Faure), Université Pierre et Marie Curie, Paris, France.
- 2016 Reviewer for the jury of **Maxime Carrere's PhD thesis** (supervisor: Frédéric Alexandre), Université de Bordeaux, France.
- 2016 President of the jury of **Ralph Bourdoukan's PhD thesis** (supervisor: Sophie Denève), Ecole Normale Supérieure / UPMC, Paris, France.
- 2016 Examiner for **Virginie Oberto's 2<sup>nd</sup> PhD mid-term evaluation committee** (supervisor: Sidney I. Wiener), Université Pierre et Marie Curie, Paris, France.
- 2015 Reviewer for the jury of **Céline Amiez's HDR thesis**, Université Claude Bernard – Lyon 1, France.
- 2015 Examiner for the jury of **Vassilisa Skvortsova's PhD thesis** (supervisors: Mathias Pessiglione & Hilke Plassmann), Université Pierre et Marie Curie, Paris, France.
- 2015 Reviewer for the jury of **Emmanuel Breyse's PhD thesis** (supervisor: Christelle Baunez), Université Aix-Marseille, France.
- 2015 Examiner for the **Virginie Oberto's PhD mid-term evaluation committee** (supervisor: Sidney I. Wiener), Collège de France / UPMC, Paris, France.
- 2014 Reviewer for the jury of **Simon Gay's PhD thesis** (supervisors: Olivier Georgeon & Alain Mille), Université Claude Bernard – Lyon 1, France.
- 2014 Examiner for the jury of **Raphaël Le Bouc's PhD thesis** (supervisor: Mathias Pessiglione), Université Pierre et Marie Curie, Paris, France.
- 2014 Examiner for **Flora Bouchacourt's PhD mid-term evaluation committee** (supervisors: Srdjan Ostojic & Boris Gutkin), Paris, France.
- 2013 Examiner for **Alexandre Salvador's PhD mid-term evaluation committee** (supervisors: Raphaël Gaillard & Stefano Palminteri), ENS / UPMC, Paris, France.
- 2012 Examiner for the jury of **Stefano Palminteri's PhD thesis** (supervisor: Mathias Pessiglione), Université Pierre et Marie Curie, Paris, France.
- 2012 Examiner for **Vasilisa Skvortsova's PhD mid-term evaluation committee** (supervisor: Mathias Pessiglione), Université Pierre et Marie Curie, Paris, France.
- 2012 Examiner for **Éléonore Duvelle's PhD mid-term evaluation committee** (supervisors: Angelo Arleo & Etienne Save), Université Pierre et Marie Curie, Paris, France.
- 2008 Examiner for the jury of **Mathieu Bertin's PhD thesis** (supervisors: Kenji Doya & Agnès Guillot), Université Pierre et Marie Curie, Paris, France.

### **Teaching (CS: Computer Science; NE: Neuroscience; RO: Robotics; CO: Cognitive Science)**

Creation of two new courses:

- Since 2015 **École Normale Supérieure Ulm - Paris**, CogMaster (Co-coordinator with B. Girard)  
CO: Robotic modelling approaches to Cognitive Sciences (Lectures: 12h+Supervision).
- 2014-2019 **SU (ex UPMC)**, License 1 (all disciplines; Co-coordinator with Frédéric Decremps)  
CO: Role of science in society and critical thinking (Lectures: 20h+Supervision).

Other current lectures:

- Since 2021 **Univ. Paris**, Artificial Intelligence for Health Diploma  
NE: Using AI to model behavior and related brain activity (Lecture: 1h + Lab: 2h)
- Since 2020 **Univ. Paris-Saclay (Orsay)**, Master 2 of Computational Neuro. & Neuro-Engineering  
NE: Reinforcement Learning, Neuroscience & Robotics applications (Lecture: 3h).
- Since 2020 **Univ. Paris, Medecine Studies, Behavioral Insights in Medicine Course**  
CO: Cognitive illusions and critical thinking (Lecture: 1h30)
- Since 2019 **Univ. Lyon 2**, Master 2 of Cognitive Sciences  
CO: Robotic modelling approaches to Cognitive Sciences (Lecture: 3h).

- Since 2019 **AgroParisTech**, Engineering school  
NE: Reinforcement learning and dopamine (Lecture: 3h).
- Since 2014 **SU (ex UPMC)**, Master 2 of Computer Science (ANDROIDE)  
CS: Neuro-inspired reinforcement learning (Lecture: 2h).
- Past lectures:
- 2019 **11<sup>th</sup> Barcelona Cognition, Brain, Technology (BCBT) Summerschool, Spain**  
CS: Model-free & model-based reinforcement Learning (Lecture: 1h).
- 2019 **Univ. of Allahabad (Prayagraj, India)**. CO: GIAN Course on “Advances in learning and decision-making”. Co-coordination with Pr. Narayanan Srinivasan & Pr. Chandrasekhar V.S. Pammi (RIP) (Lectures: 12h + Tutorials: 12h).
- 2019 **NeuroBridges 2019 Computational Neuroscience School, Cluny, France**  
NE: Model-free & model-based reinforcement Learning (Lectures: 5h).
- 2019 **National and Kapodistrian University of Athens, Greece**, Neurosci. Master program  
NE: Intro to computational modeling applied to reward-based learning (Lecture: 2h)
- 2018 **École Normale Supérieure – Lyon**, Master Biosciences  
NE: Decision-making: Elements of modelling (Lecture: 3h).
- 2017 **SMART Summer School in Computational Social & Behav. Sciences, UPMC**  
CS: Model-free & model-based reinforcement Learning (Lecture: 1h + Tutorial: 3h).
- 2017 **SU (ex UPMC)**, Master 2 of Integrative Neuroscience (BIP)  
NE: Decision-making: Elements of modelling (Lecture: 3h).
- 2015-2018 **Univ. Paris-Saclay (Orsay)**, Master 2 of Computer Science (Machine Learning)  
CS: Neuro-inspired reinforcement learning (Lecture: 2h).
- 2014 **École Normale Supérieure Ulm / PSL - Paris**, Master 1 of Cognitive Engineering  
RO: Reinforcement Learning, Neuroscience & Robotics applications (Lecture: 2h).
- 2013-2016 **Ecole X Polytechnique, Palaiseau**, Engineering school  
NE: Reinforcement Learning and brain-related mechanisms (Lecture: 2h).
- 2013-2014 **Université Claude Bernard - Lyon 1**, License 1 and 2 (all disciplines)  
CO: Analyzing the influence of advertising on brain and behavior (Lecture: 1h).
- 2013 **Harvard Summer Program in Trento, Italy**  
NE: Reinforcement Learning models (Lecture: 1h30 + Tutorial: 2h).
- 2013 **Univ. Pierre & Marie Curie (UPMC)**, Master 2 Integrative Neuroscience (BIP)  
NE: Comput. approach to parallel memory systems for navigation (Lecture: 3h).
- 2012-2015 **Polytech UPMC – Paris 6**, 5<sup>th</sup> year of Engineering School  
RO: Reinforcement Learning and Decision-Making (Lecture: 2h + Lab: 4h).
- 2012 **Telluride Neuromorphic Engineering Summerschool, USA**  
CS: Model-free & model-based reinforcement learning (Lecture: 1h + Tutorial: 4h).
- 2012-2018 **École Normale Supérieure Ulm - Paris**, Master 1 of Neuroscience  
NE: Decision-making: Elements of modelling (Lecture: 3h).
- 2011-2019 **SU (ex UPMC)**, Master 2 of Mechatronics Sys. for Rehabilitation  
RO: Bio-inspired action selection and learning (Lecture: 2h).
- 2010-2014 **Université Claude Bernard - Lyon 1**, Master 2 of Integrative Neuroscience  
NE: Decision-making: elements of modelling (Lecture: 1h30 + Debate: 2h).
- 2008-2014 **UPMC**, Master 2 of Artificial Intelligence and Decision  
CS: Neuro-inspired reinforcement learning (Lecture: 2h + Project supervision: 4h).
- Past practical/laboratory courses
- 2006 **ESIEA, Laval**, CS: Artificial and cognitive life in M1 (18h).
- 2006 **La Sorbonne, Paris**, CS: Computer Science in L2 (18h).
- 2006 **Université Paris 6**, CS: Computed Science in L2 (38h).
- 2006 **ESIEA, Laval**, CS: Artificial and cognitive life in M1 (12h).
- 2005 **La Sorbonne, Paris**, CS: Computer Science in L2 (36h).

- 2004            **ENSIIE-CNAM, Evry** CS: Computer Science in L3 (20h).  
 2003            **La Sorbonne, Paris**, CS: Computer Science in L2 (36h).  
 2003            **Université d'Évry, France** CS: Bio-Informatics in M2 (12h).

### Editorial activity

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- 2021            **Edition of a book** for university students entitled "Manuel de Psychologie et Neuroscience" (In French), de Boeck Supérieur (Publisher). In preparation.
- 2021            **Co-Editor of a special issue** with Geoffrey Schoenbaum, Betsy Murray, Mathias Pessiglione and Jay Gottfried on The Magical Orbitofrontal Cortex to be published in 2021 in Behavioral Neuroscience. In preparation.
- 2020-            **Associate Editor for Frontiers in Decision Neuroscience**. Specialty Chief Editors: Hauke Heekeren & Paul Phillips.
- 2020            **Co-Editor of a special issue** with Philipp Zech, Erwan Renaudo and Raja Chatila on Computational Models of Affordances in Robotics to be published in 2020 in Frontiers in Neurorobotics. In preparation.
- 2020            **Co-Editor of a special issue** with Mariacarla Staffa, Silvia Rossi and Adriana Tapus on Behavior Adaptation, Interaction and Artificial Perception for Assistive Robotics published in April 2020 in the International Journal of Social Robotics.
- 2019            **Co-Editor of a special issue** with Raja Chatila and Alain Mille on Ethics and Cognitive Sciences published in July 2019 in the Intellectica journal.
- 2018-            **Editorial Board Member for Neurons, Behavior, Data analysis and Theory (NBDT)**. Editors-in-Chief: Konrad Körding, Anne Churchland, Jonathan Pillow.
- 2018            **Guest Academic Editor for PLoS Biology**. Associate Editor: Brian Grone.
- 2016-2020      **Review Editor for Frontiers in Decision Neuroscience**. Specialty Chief Editors: Hauke Heekeren & Paul Phillips.
- 2016            **Co-Editor of a special issue** with Stéphane Doncieux on New Approaches to Cognitive Robotics published in July 2016 in the Intellectica journal.
- 2015-            **Associate Editor for Frontiers in Neurorobotics**. Specialty Chief Editors: Alois C Knoll & Florian Röhrbein.
- 2014-            **Review Editor for Frontiers in Behavioral Neuroscience**. Editors-in-Chief: Carmen Sandi and Nuno Sousa.
- 2013-            **Editorial Board Member for Intellectica**. Editor-in-Chief: Olivier Gapenne.
- 2008-2014      **Review Editor for Frontiers in Neurorobotics**. Specialty Chief Editor: Frederic Kaplan.

### Ad-hoc reviewer

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- Journals            Artificial Intelligence Review, Behavioral Neuroscience, Biological Cybernetics, Brain Research, Cerebral Cortex, Cognitive Affective and Behavioral Neuroscience, (alphabetical Cognitive Science, Communications Biology, Computational Psychiatry, Connection order) Science, eLife, Frontiers in Cognitive Science, Frontiers in Evolutionary Psychology and Neuroscience, Frontiers in Neurorobotics, Frontiers in Neuroscience, Frontiers in Systems Neuroscience, IEEE Transactions on Autonomous Mental Development, IEEE Transactions on Cognitive and Developmental Systems, IEEE Transactions on Industrial Electronics, IEEE Transactions on Neural Networks and Learning Systems, IEEE Transactions on Robotics, Intellectica, International Journal of Social Robotics, Journal of Neurophysiology, Journal of Neuroscience, Nature Communications, Neural Computation, Neurosignals, Paladyn Journal of Behavioral Robotics, Pattern Recognition Letters, PLoS Biology, PLoS Computational Biology, PLoS One, Progress in Brain Research, Progress in Neurobiology, Progress in Neuropsychopharmacology & Biological Psychiatry, ReScience, Review of Philosophy and Psychology, Robotics & Autonomous Systems, Royal Society Open Science, Science Advances, Scientific Reports.

Grants	ANR, Carnot Cognition Institute, Human Frontiers Science Program, EU CHIST-ERA (Panel member), IFREMER, NSF-ANR Collaborative Research in Computational Neuroscience Program (Panel member), UK's Economic and Social Research Council, Ruhr Universität Bochum, Wellcome Trust, DBT/Wellcome Trust India Alliance.
Conferences / workshops	Behavior Adaptation, Interaction and Learning for Assistive Robotics Workshop (BAILAR), Biologically Inspired Cognitive Architectures Conference (BICA), International Conference on Development and Learning – Epigenetic Robotics (ICDL-EPIROB), IEEE International Conference on Robotics and Automation (IEEE ICRA), IEEE/RSJ International Conference on Intelligent Robots and Systems (IEEE IROS), International Conference on Robotics, Computer Vision and Intelligent Systems (ROBOVIS), International Conference on Social Robotics (ICSR), Living Machines Conference (LM), Multimodal processing, modeling and learning for human-computer/robot interaction Workshop (MULTI-LEARN), Orbitofrontal Cortex Meeting (OFC), Simulation of Adaptive Behavior Conference (SAB), Symposium on Biology of Decision-Making (SBDM), IFAC Symposium on System, Structure and Control (SSSC).

### **Program Committee member for international conferences / workshops**

(chronological order)	<p><b>Conferences:</b> SAB 2010, SBDM 2012, SBDM 2013, Living Machines 2013, SBDM 2014, SBDM 2015, BICA 2015, OFC 2015, SBDM 2016, SBDM 2017, SBDM 2018, SBDM 2019, OFC 2019, SBDM 2020, ROBOVIS 2020, SAB 2020, ICSR 2020.</p> <p><b>Workshops:</b> Navigation workshop (Arleo, Chavarriaga) at SAB 2006, “Behavior Adaptation, Interaction and Learning for Assistive Robotics” BAILAR 2016 workshop (Rossi, Siciliano, Staffa) at RO-MAN 2016, “From Artificial Intelligence to Neuroscience, and back” workshop (Gershman, Gutkin, Khamassi) at CRCNS 2016, Multi-Learn workshop (Khamassi, Papageorgiou, Pitsikalis, Roussos, Zlatintsi) at EUSIPCO 2017, BAILAR 2017 (Chellali, Rossi, Staffa) at RO-MAN 2017, BAILAR 2018 (Conti, Khamassi, Staffa) at RO-MAN 2018, BAILAR 2020 (Conti, Cordella, Khamassi, Rossi, Staffa) at RO-MAN 2020.</p>
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### **Other academic professional activities**

Since 2020	Board member and secretary of the French Association pour la Recherche sur la Cognition (ARCo).
Since 2013	Yearly participation to evaluation committees for 45-50 Master 2 students' research project's intermediate and final defenses + 5-10 Master 1 students' short-duration research project final defense, CogMaster, ENS / EHESS / UPD Paris.
2020	ED3C doctoral school scientific committee member for the evaluation of 50 applications for PhD funding at Sorbonne Université.
2018	Evaluation of 65 applications for internal promotion to Research Engineer level, CAP committee, CNRS.
2016	Evaluation committee member for an assistant professor position recruitment in Robot cognitive architectures at Université Pierre et Marie Curie (UPMC).
2015	Member of the SMART Labex Doctoral Committee for the evaluation of 20 applications for PhD funding at UPMC.
2014	Evaluation committee member for an assistant professor position recruitment in Neurorobotics at Université de Cergy-Pontoise / ENSEA.
2013	Evaluation committee member for an assistant professor position recruitment in Computational Neuroscience at Université de Lorraine / INRIA LORIA.
2013	Co-organized with Vincent Hayward ISIR's tutorial on preparation for the writing of individual research grant applications (20 participants).
2010-2012	Member of the “platform committee” of ISIR, managing inventory, presentation, costs and grant applications of the institute's robotic platforms.

- 2006-2007 PhD students' representative, with Zoë Cimatti and Matthieu Lafon, at the ED3C (Brain, Cognition, Behavior) doctoral school of UPMC Univ. Paris 6.
- 2005-2006 Board Member of Doc'Up, the association of PhD students of UPMC Univ. Paris 6.
- 2002-2005 Board Member (2002-2005) and President (2003-2004) of Cognivence, association of students and young researchers in cognitive science in Paris' area.
- 2003-2005 Board Member and minor co-founder of FRESCO (2003-2005), national federation of students and young researchers in cognitive science.
- 2004 Vice-president of Paris-area regional committee (CloEG) for the organization of the French "États Généraux de la Recherche et de l'Enseignement Supérieur 2004".
- 2004 Member of the national committee (CIP-CloEG) for the national synthesis of texts elaborated regionally during the French "États Généraux de la Recherche et de l'Enseignement Supérieur 2004". The synthesized document was then submitted to the French Ministry of Research in November 2004.

### **Scientific mediation and wide-audience presentations**

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- 2020 Interview by the French Parliament (Assemblée Nationale) about the impact of advertising on brain and behavior, during the preparation of a new law proposal about the regulation of digital advertising screens in public space.
- 2020 Wide-audience conference and round-table about decision-making under uncertainty in the society. Organized by an office of the French administration (Direction Interministérielle pour la Transformation Publique) for decision-makers. [\[VIDEO LINK\]](#)
- 2020 Interview for the research project of an MBA student in Communication and Medias at EFAP: Marie Guibout Masini. Theme: Advertising.
- 2020 Wide-audience conference on scientific, historical and ethical issues of Neuromarketing at Université du Temps Libre de l'Essonne (91), Juvisy.
- 2020 Wide-audience conference on scientific, historical and ethical issues of Neuromarketing at Université du Temps Libre de l'Essonne (91), Les Ulis.
- 2020 Interview for a documentary on Neuromarketing by students of IESEG School of Management: Geoffrey Chovet et al.
- 2020 Round table organized in Lyon by Alternatiba about "What place for advertising in the world of tomorrow?"
- 2019 Wide-audience round table organized by the mayor of Paris 2<sup>nd</sup> arr. about the impact of urban advertising on citizens' behavior, health and ecology.
- 2019 Interview for the research project of a master student in Communication and Medias: Thomas Regal. Theme: Neuromarketing.
- 2019 Wide-audience conference on scientific, historical and ethical issues of Neuromarketing at Université du Temps Libre de l'Essonne (91), Limours.
- 2019 Wide-audience conference on scientific, historical and ethical issues of Neuromarketing at Université du Temps Libre de l'Essonne (91), Arpajon.
- 2018 Wide-audience conference and round table about Artificial Intelligence within the "Il était une fois demain..." Program at Sorbonne Université. [\[VIDEO LINK\]](#)
- 2018 2-hours presentation at Lycée Franco-Hellénique High School (Athens, Greece) about Visual perception, education to image and critical thinking towards advertising.
- 2018 Two 1-hour presentations at Lavoisier Junior High School (Pantin) about Visual perception, education to image and critical thinking towards advertising.
- 2018 Interview and scientific advisor for the project of a master student in visual didactics at Haute Ecole des Arts du Rhin: Pierre-Baptiste Harrivelle. Theme: Scientific mediation and how to deconstruct fake theories through art exhibitions where the audience becomes the experimenter: Case of the flat earth 'conspiracy theory'.
- 2018 Scientific advisor for the project of a license student in journalism at Université Libre de Bruxelles: Elise Jeannelle. Theme: Human-robot interaction.

- 2017 Interview and scientific advisor for the project of a student in architecture at Ecole Nationale Supérieure des Arts Décoratifs: Éléonore Geissler. Theme: Exobiological research through design-fiction.
- 2017 Scientific advisor for the project of introduction to science (TPE) of a high-school student: Hélène Montagner. Theme: Interpretation of its surroundings by a robot.
- 2017 Interview and scientific advisor for the project of introduction to science (TPE) of a high-school student: Ilan Volson. Theme: Impact of advertising on brain & behavior.
- 2016 Featured interview in the online educative scientific video game <http://www.memorya.org/> by ART'M and B2V.
- 2016 Wide-audience conference on embodied artificial intelligence at the 15<sup>th</sup> National Forum of Cognitive Sciences, Univ. Paris Descartes 5, Paris. [\[VIDEO LINK\]](#)
- 2016 Wide-audience conference on scientific, historical and ethical issues of Neuromarketing at Université du Temps Libre de l'Essonne (91), Epinay-sur-Orge.
- 2016 Wide-audience conference on scientific, historical and ethical issues of Neuromarketing at Université du Temps Libre de l'Essonne (91), Montgeron-Draveil.
- 2015 Invited expert by UNICEF (Genève, Switzerland) for a report on the impact of advertising and marketing practices on children.
- 2015 Wide-audience talk and round table on scientific, historical and ethical issues of Neuromarketing at the Alternatiba Festival, Les Ulis, Essonne (91).
- 2015 Interview and scientific advisor for the project of introduction to science (TFE) of a high-school student: Victoria Peek. Theme: Influence of advert. on brain and behav.
- 2014 "Bar des Sciences" about Robotics and Neuroscience, Montbéliard.
- 2014 Interview and scientific advisor for the project of introduction to science (TFE) of a high-school student: Bertrand Raysz. Theme: Today Robotics vs. Asimov's Robots.
- 2014 Invited speaker at the closing "Table ronde" of the Cognitive Science Forum, with Jean-Claude Ameisen and Georges Chapouthier. [\[VIDEO LINK\]](#)
- 2013 Interview and scientific advisor for the project of introduction to science (TFE) of two high-school students: Satnam Singh and Yanis Mendil. Theme: Influence of advertising on brain and behavior.
- 2013 Invited expert at the United Nations (New York, USA) by the High Commissioner for Human Rights to write a report on the impact of advertising and marketing practices on the enjoyment of cultural rights. [\[LINK TO THE REPORT\]](#)
- 2013 Scientific exhibition on Memory, organized by ART'M (Jacques Roux et al), Chambéry, France. Interview, scientific advisor, and robot demonstration.
- 2013 Two one-hour presentations at Marcelin Berthelot High School (Pantin) about Visual perception, education to image and critical thinking towards advertising.
- 2013 Interview and scientific advisor for the project of introduction to science (TPE) of two high-school students: Florian Desrosiers et al. Theme: The Psikharpax rat robot.
- 2012 Wide-audience conference on Neuro-robotics. Fête de Luttes Ouvrières (93).
- 2011 "Café des Sciences" about Robotics, Mediathèque de Combs-la-Ville (93).
- 2011 Wide-audience conference on Neuro-robotics. Fête de Luttes Ouvrières (93).
- 2011 National science celebration ("Fête de la Science"). One-day demonstration of the Psikharpax rat robot at Université Pierre et Marie Curie.
- 2010 Wide-audience day on Robots and Humans ("Des Robots et des Hommes") at Cité des Sciences, Paris. Demonstration on the Psikharpax rat robot, with Agnès Guillot, Christophe Grand, Steve N'Guyen and Mathieu Bernard.
- 2010 National science celebration ("Fête de la Science"). Two-day demonstration of the Psikharpax rat robot at Université Pierre et Marie Curie.
- 2009 "Café des Sciences" about Artificial Intelligence, MJC de Combs-la-Ville (93).
- 2007 National science celebration ("Fête de la Science"). One-day demonstration of the Psikharpax rat robot at Université Pierre et Marie Curie.



## Media coverage

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- 2020 Libération. Article about pavlovian mechanisms used in advertising [\[LINK\]](#)
- 2020 Interview for Reporterre information website about the use of emotion in advertising, especially during the Covid-19 pandemics [\[LINK\]](#)
- 2019 Interview for the Center for Behavioral and Cognitive Sciences, University of Allahabad (Prayagraj, India), following the GIAN course that I had co-organized there.
- 2019 Press coverage on the CNRS website about our publication in Scientific Reports (Cinotti, Fresno et al., 2019) [\[LINK\]](#)
- 2019 Interview for Radio Fréquence Plurielle Paris about the influence of advertising on brain and behavior. [\[LINK\]](#)
- 2019 Transcription of my intervention in a round table organized by the Mayor of Paris 2<sup>nd</sup> arr. in a news article by Reporterre on the invasion of public space by digital advertising screens [\[LINK\]](#)
- 2018 Interview for Industrie et Technologies (online magazine) about reinforcement learning, artificial curiosity, forgetting and info restructuring during dreams.
- 2018 Press coverage on the CNRS website about our publication in PLoS Biology (Lee et al., 2018) [\[LINK\]](#)
- 2016 Interview in Science, 352(6290):1161, about science and diplomacy in relation to the Middle-East conflict, following the NeuroBridges workshop organized in Paris by Ahmed El Hady and Yonathan Loewenstein. [\[LINK\]](#)
- 2016 Article written with Raja Chatila about consciousness in robots published on Interstices, INRIA's webzine for scientific culture (IT and Maths). [\[LINK\]](#)
- 2016 Our work with Indian architect Sudhir K. Pasala and psychologist V.S. Chandrasekhar Pammi has been mentioned (text and figure) in an article on "How neuroscience can influence architecture" in the journal of the American institute of architects.
- 2016 Article written with Frédéric Decremps for The Conversation on the Scientific approach & critical thinking, (contrib. from Marie Pinhas & Fabrice Rousselot). [\[LINK\]](#)
- 2016 UPMC website: interview entitled "Errare scientificum est!" on the Scientific approach and critical thinking course I co-animate with Pr. Frédéric Decremps.
- 2016 "L'âge de faire" journal (N°113). Interview about current scientific knowledge on the influence of advertising on brain activity and behavior (conditioning, reward system, and multiple types of memorizations).
- 2015 Press coverage on the CNRS website about our publication in Nature Communications (Palminteri et al., 2015) [\[LINK\]](#)
- 2015 Politis information journal. Full-page interview about current scientific knowledge on the influence of advertising on brain activity and behavior (conditioning, reward system, and processing of urban adverts during habitual navigation).
- 2015 Article written with Raja Chatila on robot consciousness for Pour La Science. [\[LINK\]](#)
- 2015 Article in Navette Science written by Ombelliscience Picardie about our collaborative work with INSERM Lyon about neuro-inspired learning in the iCub humanoid robot.
- 2014 Est Républicain newspaper article about the Robotics and Neuroscience Bar des Sciences to which I participated in Montbéliard.
- 2013 Radio Campus Paris. Interview about Computational Neuroscience and Neurorobotics for the "La Puce à l'Oreille" show.
- 2013 Politis information journal. Video interview about current scientific knowledge on the influence of advertising on brain activity and behavior (conditioning, reward system, and processing of urban adverts during habitual navigation). [\[VIDEO LINK\]](#)
- 2012 Planète Robots magazine. Interview about the Psikharpax rat robot.
- 2012 LeMonde.fr. Article about Current estimations of nociceptive effects of advertising on the society. Co-writers: Guillaume Dumas, Karim N'Diaye, Luc Foubert, Yves Jouffe and Camille Roth. [\[LINK\]](#)
- 2012 Le Monde. Interview for the article "What robots can teach us about ourselves" by

	Viviane Thivent.
2011	Futura-sciences.com web scientific magazine. Wide-audience article about the Psikharpax rat robot (two versions: <a href="#">FR</a> and <a href="#">UK</a> ).
2011	INSERM Health & Science Magazine. Interview about a neuromimetic prefrontal cortex model controlling the iCub humanoid robot.
2011	Marion Montaigne's humouristic scientific blog and (later) published book. Interview about robotics research work at the Institute of Intelligent Systems and Robotics. With Benoît Girard, Stéphane Doncieux and Jean-Baptiste Mouret.
2010	Arte TV channel. Interview + robot demonstration for the "Global Mag" show.
2009	Tekiano.com, Tunisian scientific web magazine. Interview about neuro-inspired approaches to robotics.
2009	France 5 TV channel. Interview and demonstration of a robot controlled by a neuromimetic learning model for the "Magazine de la Santé" show.
2009	France 3 Rhône-Alpes TV channel. Interview and demonstration of a robot controlled by a neuromimetic learning model for the mid-day news program.
2009	Press conference with Peter F. Dominey on the iCub humanoid robot in front of 30 journalists including AFP and Reuters at INSERM Stem-cell and Brain Research Institute, Lyon.
2008	France Culture Radio. Interview for the "Science and Consciousness" show, with Agnès Guillot and Jean-Arcady Meyer.

#### Scientific societies memberships

(alphabetical order)	French Association pour la Recherche sur la Cognition, EU Tech. Committee on Cognitive Robotics, FENS, French Society for Neuroscience, French Neurosci. of Memory GDR, French Robotics GDR, French NeuralNet GDR, Society for Neuroscience.
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#### Current scientific collaborators

France	<p><b>Rachid Alami, Aurélie Clodic, Sandra Devine</b> CNRS LAAS, Toulouse, France</p> <p><b>Céline Amiez, Peter Dominey, Jean-Claude Dreher, Mateus Joffily, Manu Procyk</b> CNRS / INSERM / Univ. Lyon 1, Lyon, France</p> <p><b>Paul Apicella, Andrea Brovelli, Kevin Marche</b> CNRS / Université Aix-Marseille, Marseille, France</p> <p><b>Angelo Arleo, Raja Chatila, Mohamed Chetouani, David Cohen, Stéphane Doncieux, Jacques Droulez, Benoît Girard, Catherine Pelachaud, Olivier Sigaud</b> CNRS / Sorbonne Université (ex UPMC), France</p> <p><b>Alain Berthoz, Sidney I. Wiener, Michael Zugaro</b> CNRS / Collège de France, Paris, France</p> <p><b>Etienne Coutureau, Alain Marchand</b> CNRS / Université Bordeaux 2, France</p> <p><b>Elisabeth Pacherie, Stefano Palminteri</b> CNRS / Ecole Normale Supérieure, Paris, France</p> <p><b>Ouriel Grynspan, Cyril Monier, Michèle Sebag</b> Université Paris-Saclay, Orsay, France</p>
Europe	<p><b>Nadège Bault, Giorgio Coricelli, Tobias Larsen</b> Univ. of Trento, Italy</p> <p><b>Ricardo Chavarriaga</b> Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland</p> <p><b>Marios Panayi, Léa Roumazeilles, Matthew Rushworth, Jérôme Sallet, Chris</b></p>

**Summerfield, Mark Walton, Marco Wittmann**

Department of Experimental Psychology, University of Oxford, United Kingdom

**François Cinotti, Mark D. Humphries**

University of Nottingham, United Kingdom

**Kongfatt Wong-Lin**

University of Ulster, United Kingdom

**Farshid Amirabdollahian, Ben Robins, Luke Wood, Abolfazl Zarak**

University of Hertfordshire, United Kingdom

**Francesco P. Battaglia, Lisa Genzel, Guillaume Sescousse**

Radboud Universiteit, Nijmegen, The Netherlands

**Georgia Chalvatzaki, Petros Maragos, Paraskevas Oikonomou, Theodore Tsitsimis,**

**Costas Tzafestas, George Velentzas**

National Technical University of Athens, Greece

**Franziska Kirstein, Mamoun Gharbi, John Erland Østergaard**

Blue Ocean Robotics, Odense, Denmark

**Inaki Rano**

Odense, University of Southern Denmark

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Europe

**Kenji Doya**

Okinawa Institute of Science and Technology, Okinawa, Japan

**V.S. Chandrasekhar Pammi (RIP), Sudhir K. Pasala, Narayanan Srinivasan**

University of Allahabad / Andhra University, India

**Kerstin Dautenhahn**

Waterloo University, Canada

**Geoffrey Schoenbaum, Matthew R. Roesch, Donna J. Calu**

NIH-NIDA / Univ. Maryland, Baltimore, United States of America

**Karim Jerbi, Adrien Peyrache, Guillaume Viejo**

Université de Montréal / McGill University, Montréal, Canada