Curriculum Vitæ

Angelo ARLEO

Director of Research CNRS – VISION INSTITUTE, Paris

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First name: Angelo
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CURRENT APPOINTMENTS

2014– Head of the Aging in Vision & Action lab, Vision Institute-Sorbonne University, Paris, France
2019–2022 Director of ANR-Essilor-SNCF Research Chair SilverSight II, Vision Institute, Paris, France
2014– Senior consultant, Essilor International, Paris, France

PREVIOUS POSITIONS & TRAINING

2015–2018 Director of ANR-Essilor Research Chair SilverSight, Vision Institute, Paris, France
2014–2015 Director of the Joint Research Lab Vision Institute – Essilor International, Paris, France
2007–2013 Head of the Adaptive NeuroComputation lab, University Pierre & Marie Curie, Paris, France
2004–2006 Associate researcher at CSL Sony Paris, France
2001–2003 Postdoctoral fellow at Collège de France CNRS, Paris, France
1997–2000 PhD, Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland
1996–1997 Internship at the Nomadic Technologies Inc., Palo Alto, USA
1995–1996 Internship at the EU Joint Research Center (JRC), Ispra, Italy

ACADEMIC APPOINTMENTS & EDUCATION

2012 Director of Research (DR2) CNRS, Institute of Biological Science (INSB), Sec. 26
2007 Permanent Researcher (CR1) CNRS, Institute of Biological Science (INSB), Sec. 26
2005 HDR in Life Science, University Pierre & Marie Curie (UPMC), Paris, France
1997–2000 PhD in Computational Neuroscience, EPFL, Switzerland
1991–1996 MSc in Artificial Intelligence, University of Science of Milan, Italy

BIOSKETCH

A. Arleo is a Director of Research at CNRS and a team leader at the Vision Institute, Paris, France. He primarily explores the perceptual and cognitive consequences of visual aging in humans. He is the Chairholder of the ANR Research Chair SilverSight, which pioneers fundamental research to foster innovative health and IT developments. Overall, his research interests span the adaptive processes mediating the ability of animals and humans to (i) interact with the environment through manifold sensory modalities, and (ii) learn contextual representations underpinning cognitive functions. He combines experimental and computational tools in the attempt of cross-linking multiple organization levels, ultimately providing the basis for a better understanding of the action-perception loop.

He received a MSc degree from the University of Milan, Italy, in 1996. He joined W. Gerstner's Laboratory of Computational Neuroscience at the EPFL (Swiss Federal Institute of Technology Lausanne, Switzerland) in 1997, where he received his PhD in 2000. He did a postdoctoral training in experimental neuroscience in A. Berthoz's Laboratory of Physiology of Perception and Action at Collège de France, Paris, from 2001 to 2003. He worked as a R&D fellow at CSL Sony, Paris, from 2004 to 2006. He received his Habilitation to Direct Research (HDR) in Life Science from the Univ. Pierre and Marie Curie, Paris, in 2005. He was appointed as permanent (CR1) CNRS researcher in 2007. From 2007 to 2013, he directed the Adaptive NeuroComputation (ANC) group in the unit of Neurobiology of Adaptive Processes, directed by J. Mariani, at the Univ. Pierre & Marie Curie, in Paris. In 2012, the CNRS endorsed his action by promoting him Director of Research (DR2). In 2014, he joined the Vision Institute, directed by J.-A. Sahel, to set the new Aging in Vision & Action lab, whose research program whose framed within the academic-clinical-industrial partnership (Joint Research Lab) involving the Vision Institute, the Quinze-Vingts National Ophthalmic Hospital and Essilor Internation. In 2015, he was awarded the Chairholdership of the ANR Research Chair Silversight, initially during the period 2015-2018, and subsequently renewed until Dec 2022.

Keywords. Visual aging, visuospatial cognition, neural coding, learning & memory, data science, rehabilitation.

SCIENTIFIC RESPONSIBILITIES & RESEARCH MANAGEMENT

Team leaderships

2014– Head of the Aging in Vision & Action lab, Vision Institute, Paris (25 members)
2019–2022 Director of the Research Chair SilverSight II ANR-Essilor-SCNF, Vision Institute, Paris
2015–2018 Director of the Research Chair SilverSight ANR-Essilor, Vision Institute, Paris
2014–2015 Director of the Joint Research Lab Vision Institute – Essilor, Paris, France
2007–2013 Head of the Adaptive NeuroComputation lab, University Pierre & Marie Curie, Paris, France

Research contracts and collaborative projects

2019–2022 ANR-Essilor-SNCF Research Chair SilverSight II, role: Coordinator - PI, fund: 3.55 M€
2015–2018 ANR-Essilor Research Chair SilverSight, role: Chairholder - PI, fund: 3.6 M€
2019–2020 DFG (German National Research Agency), role: host PI, fund: 70 K€
2019 ENP (Ecole Neurosciences Paris), role: host PI, fund: 5 K€
2017–2020 IUIS Sorbonne University, role: host PI, fund: 95 K€
2018 Mind&Life Varela Research Awards, role: host PI, fund: 15 K€
2015–2017 EU MSCA-658479 H2020 SpikeControl, role: coordinator, fund: 173 K€
2014–2015 Joint Research Laboratory Vision Institute – Essilor, role: PI, fund: 500 K€
2010–2013 DGA, N°2010-168087/DGA/DS/MRIS, role: PI, fund: 120 K€
2009–2013 CASPUR, Prot. 487/11, 3 partners, 280 K CPU-hours, role: PI
2009–2012 ANR-09-EMER-005-02, 3 partners, role: PI, fund: 145 K€
2011–2012 UPMC EME1114, 3 partners, role: Coordinator, fund: 100 K€
2007–2010 EU IST-028056-IP 6th FP, 12 partners, role: PI, fund: 300 K€
2007–2010 EU IST-027819-IP 6th FP, 9 partners, role: PI, fund: 150 K€
2008–2009 UPMC, 2 partners, role: coordinator, fund: 40 K€
2009 FRM research Grant, role: hosdt PI, fund: 30 K€

Total amount of funds raised for research: ~9 M€

INTERNATIONAL VISIBILITY

Scientific contributions *(see the list of publications for more details)*

Overall: 46 articles in international journals
47 invited talks to international conferences & (inter)national institutions
34 articles in peer-reviewed proceedings
97 conference abstracts (both poster and oral presentations)
1 edition of a special issue of an international journal
4 book chapters
2 books/dissertations
8 patents & copyrights
2 software licenses
1 technical report

Total #citations: 1569; highest #citations/paper: 300; h-index: 20 (Google scholar)

Scientific collaborations

International & national collaborations (n=25)

2018– Mamassian P, ENS, Paris, France
2016– Wexler M, CNRS Univ Paris Descartes, France
2015– Chavarriaga R, Swiss Federal Institute of Technology Lausanne EPFL, Switzerland
2014– Seiple WH, New York University, Lighthouse Inc., NY, USA
2015–2018 Thorpe S, CNRS – Cerco, Toulouse, France
2015–2018 Delcourt C, University of Bordeaux, France
2012–2016 Micera S, Swiss Federal Institute of Technology Lausanne EPFL, Switzerland
2010–2015 Gerstner W, Swiss Federal Institute of Technology Lausanne EPFL, Switzerland
2011–2015 Procyk E, INSERM University Lyon, France

2011—2015 Save E, University Aix en Provence, France
2010—2013 Otani S, Ryotokuji University, Japan (prev. UMR7102)
2007—2016 Ros E, University of Granada, Spain
2011—2012 Hayward V, University Pierre & Marie Curie Paris, France
2009—2012 Johansson RS, University of Umeå, Sweden
2009—2011 Benchenane K, CNRS, Paris, France
2011—2012 Jörntell H, University of LUND, Sweden
2007—2010 D'Angelo E, University of Pavia, Italy
2007—2010 Nieus T, Italian Institute of Technology, Italy
2007—2010 van der Smagt P, German Research Center for Aeronautics & Space, DLR, Germany
2004—2005 Brunel N, University Descartes P5, Paris, France
2004—2013 Wiener S, Collège de France, Paris, France
2004 Smeraldi F, Queen Mary University London, UK
2004—2012 Rondi-Reig L, University Pierre & Marie Curie Paris, France
2004—2008 Meyer JA, University Pierre & Marie Curie Paris, France
2000—2001 Brandner C, University of Lausanne, Switzerland

Invited scientific stays in international Institutions (n=2)

2019 New York University – Lighthouse Inc., NY, USA
2008 University of Pavia, Department of Cellular & Molecular Physiological

Boards & committees, collective responsibilities

Editorial boards (n=4)

2019— Journal of Ophthalmic Research, role: member of editorial board
2013— ISTE-Hermes-Wiley, Neural Engineering, role: Series Editor
2007— Frontiers in Computational Neuroscience, role: Review Editor
2007— Frontiers in Computational Neuroscience, role: Review Editor
2007 Journal of Integrative Neuroscience, role: Guest Editor

Advisory boards & evaluation panels

2014—2016 H2020 KIC-Innolife EIT Health, **Arleo A**, advisory board
2016 ENP (Ecole de Neuroscience de Paris), **Arleo A**, selection committee
2014 European Commission, H2020 FET Call PROAC
2014— 4 Professorship Selection Committees, CNU 69, 61, 7
2014 UPMC, VAE ED3C
2013 European Commission, FET Proactive ICT Call 10
2007— >20 PhD and HDR committees
2001— Reviewer for 20 international journals
2012—2017 Commission of HDR and PhD thesis in Life Science, UPMC
2012 European Commission, FET Proactive ICT Call 9
2012 Natural Environment Research Council, UK
2011 Human Frontier Science Program
2010 Association Française contre les Myopathies
2009 Professorship Selection Committees, UPMC MCF CNU 61
2011 UPMC-Emergence Programme
2011 PEPII CNRS
2007 Fondation pour la Recherche Médicale
2003 European Commission, Cognitive Systems Call

Scientific & steering boards (n=4)

2019—2022 Scientific board of the SilverSight II Chair, President
2019—2022 Steering board of the SilverSight II Chair, member
2015—2018 Scientific board of the SilverSight Chair, President
2015—2018 Director board of the SilverSight Chair, member
2016— Scientific board of the Opera Joint Laboratory CNRS – Essilor, member

2011 Laboratory board, UMR 7102 Neurobiology of Adaptive Processes, UPMC

Event organization

2019 Kick-off meeting of the ANR Research Chair SilverSight II, organizer
2015 Kick-off meeting of the ANR Research Chair SilverSight (~85 attendees), organizer
2014– Series of international seminars at the Vision Institute (~30), organizer & chairman
2012 International Workshop on Modern Evolutionary Algorithms (USA), co-organizer

Programme committees of international conferences (n=18)

2019 International Work Conference on Artificial Neural Networks
2018 International Conference on the Simulation of Adaptive Behavior
2016 International Conference on the Simulation of Adaptive Behavior
2015 International Work Conference on Artificial Neural Networks
2014 International Conference on the Simulation of Adaptive Behavior
2013 International Workshop on Neuromorphic and Brain-based Computing Systems
2013 International Work Conference on Artificial Neural Networks
2012 International Workshop on Modern Evolutionary Algorithms, (co-organiser)
2012 International Conference on the Simulation of Adaptive Behavior
2012 EuroHaptics, 2012
2012 IEEE International Conference on Biomedical Robotics and Biomechatronics
2011 International Work Conference on Artificial Neural Networks
2010 International Conference on Simulation of Adaptive Behaviour
2010 IEEE International Conference on Biomedical Robotics and Biomechatronics
2009 International Workshop of Tactile Sensing, Conference Humanoids
2008 International Conference on the Simulation of Adaptive Behavior
2006 International Workshop on Spatial Cognition (co-organiser)
1999 International Conference on Genetic and Evolutionary Computation

International organizations & bodies

2019– Association for Research in Vision and Ophthalmology (ARVO), member
2017– Vision Science Society (VSS), member
2014– French Society for Neuroscience, member
2014– Organization for Computational Neuroscience (OCNS), faculty member
2012 FENS, Federation of European Neuroscience Societies, member
2012 IBRO, International Brain Research Organisation, member

Other memberships & collective responsibilities

2015– ENP (Ecole des Neurosciences Paris Ile de France)
2010 Correspondent Europe/International CNRS–INSB

AWARDS, HONORS, GRANTS & COMPETITIONS

2019 Awarded the Chairholdership of the ANR Research Chair Silversight II (4 years)
2015 Awarded the Chairholdership of the ANR Research Chair Silversight (4 years)
2012 Promotion to Director of Research DR2 at CNRS, national competition
2007 Tenured appointment as “Chargé de recherche CR1” at CNRS, national competition
2012 Qualification to the functions of Professor of University, national competition (4 years)
2006 Qualification to the functions of Professor of University, national competition (4 years)
2003 Individual fellowship “Associate Researcher CNRS”
2002 Individual fellowship EU Marie Curie
2001 Individual fellowship Swiss NSF
2001 Individual fellowship EU Neuroinformatics
2001 Price from Swiss Annahim Foundation
2001 Price for the best PhD thesis of year 2000, EPFL, Switzerland

IN-SERVICE TRAINING

2009– First-aid rescue worker

2015 Training to emergency care (AFGSU)
2011 Managerial communication and leadership
2009 Team leadership
2007-2010 Intensive English
2001 EU Advanced Course in Computational Neuroscience

INVOLVEMENT IN RESEARCH TRAINING AND TEACHING

Mentoring post-doctoral fellows *(n=12)*

2019—2020 Schumann F (DMG grant)
2014—2019 Allard R (ANR-Essilor Research Chair grant)
2017—2019 Agathos K (ANR-Essilor Research Chair grant)
2016—2019 Ramanoel S (ANR-Essilor Research Chair grant)
2015—2019 Lagrené K (ANR-Essilor Research Chair grant)
2017—2018 Carrillo R (ANR-Essilor Research Chair grant)
2015—2018 Tartaglia E (ANR-Essilor Research Chair grant)
2015—2018 Tatur G (ANR-Essilor Research Chair grant)
2015—2017 Luque N (EU grant)
2016—2017 Marchesotti S (ANR-Essilor Research Chair grant)
2009—2017 Bologna LL (EU grant, 2009-11; UPMC grant, 2012-3; ANR-Essilor Research Chair grant, 2014-7)
2008—2013 Sheynikhovich D (UPMC grant, 2008-9; ANR grant, 2009-12; Ater 2012-3)

Supervision of PhD students *(n=12)*

2017—2020 Raphanel M (IUSI Sorbonne University doctoral grant)
2016—2019 LI T (ANR-Essilor Research Chair grant)
2016—2019 Nael V (CIFRE Essilor grant)
2016—2018 Huth J (ANR-Essilor Research Chair grant)
2015—2018 Bécu M (ANR-Essilor Research Chair grant)
2011—2015 Logiaco L (Doctoral fellowship ENS), now postdoc at Columbia, NY, USA
2014—2018 Jehenne B (Doctoral fellowship)
2010—2014 Duvelle E (DGA grant), now postdoc at UCL, UK
2010—2013 Pinoteau J (DGA grant), now at ALTEN, France
2007—2011 Passot JB (Doctoral fellowship 2007-10; ANR grant 2010-1), now at Brain Corporation USA
2007—2010 Martinet LE (EU grant 2007-10), now postdoc at Boston University, USA
2007—2010 Brasselet R (EU grant 2007-9; FRM grant 2009-10), now postdoc at Trento University, Italy

Visiting PhD students

2016 Naveros F (1 year rotation, Granada University, Spain)
2017 Valikodath N (1 month rotation, University of Michigan Medical School, USA)
2018 Shaughness G (2 months rotation, University of Michigan Medical School, USA)

International & national agreements for joint supervision of PhD students

2016—2019 EPFL, Switzerland; Chavarriaga R, co-supervision of LI T
2016—2018 CERCO CNRS; Masquelier T, co-supervision of Huth J
2014—2018 EPFL, Switzerland; Micera S, co-supervision of Jehenne B
2011—2015 EPFL, Switzerland; Gerstner W, co-supervision of Logiaco L
2010—2014 University Aix en Provence, France; Save E, co-supervision of Duvelle E

Supervision of graduate & undergraduate students *(n>50)*

2007— Master (M1, M2) students, engineer trainees, licence student internships

Teaching activity & responsibilities

Coordination of Master modules

2008— Master BI, Neuroscience, UPMC, UE “Neural Networks”, 50 h/year
2015— Master of Vision Science, Univ. d’Orsay, UE “Visual Cognition”, 14 h/year
2013 Master of Bioinformatics, UPMC, UE “Computational Neuroscience”, 30 h/year

Teaching at Masters, Doctoral schools, and summer schools

2015–	Master of Cognitive Science (CogMaster), ENS-EHESS-Paris 5, 2 h/year
2015–	Master of Vision Science, Univ. d'Orsay, 7 h/year
2014–	Master BI, Biology of Aging, 2 h/year
2013	OIST Computational Neuroscience Summer School, Okinawa, Japan, 3 h
2013	Marie Curie Training "Prototouch", France, 3 h
2008–	Master BI, Neuroscience, UPMC, teaching at 3 UEs, 10 h/year
2007–14	Master in Artificial Intelligence, UPMC, 2 h/year
2013	Master in Bioinformatics, UPMC, 3 h/year
2012	Doctoral School on Biorobotics, Scuola Superiore Sant'Anna, Pisa, Italy, 3 h
2002–6	Doctoral School on Neuroscience, Univ Geneva & Lausanne, Switzerland, 3 h/year
2002	Summer School on Integrative Neuroscience, Collège de France, France, 3 h
2003	Doctoral School on Cybernetics, Max Planck Institute, Germany, 2 h

Publication List

Angelo ARLEO

Director of Research CNRS – VISION INSTITUTE, Paris

LIST OF SCIENTIFIC CONTRIBUTIONS

International Journals (n=46)

1. Silvestre D, **Arleo A,** Allard R (2019) Healthy aging impairs photon absorption efficiency of cones. *Investigative Ophthalmology & Vision Science*, 60(2):544-51.
2. Luque NR, Naveros F, Carrillo RR, Ros E, **Arleo A** (2019) Spike burst-pause dynamics of Purkinje cells regulate sensorimotor adaptation. *PLoS Computational Biology*, (in press).
3. Duvelle E, Grieves RaHV, Poucet B, **Arleo A**, Jeffery K and Save E (2019) Insensitivity of place cells to the value of spatial goals in a two-choice flexible navigation task. *Journal of Neuroscience*, (in press).
4. Nael V, Moreau G, Monferme S, Cougnard-Gregoire A, Scherlen AC, **Arleo A**, Korobelnik JF, Delcourt C and Helmer C (2019) Prevalence and Associated Factors of Uncorrected Refractive Error in Older Adults in a Population-Based Study in France. *JAMA Ophthalmology*, 137(1):3-11.
5. Nael V, Peres K, Dartigues JF, Letenneur L, Amieva H, **Arleo A**, Scherlen AC, Tzourio C, Berr C, Carriere I, Delcourt C and Helmer C (2019) Vision loss and 12-year risk of dementia in older adults: the 3C cohort study. *European Journal of Epidemiology*, 34(2):141-52.
6. Naveros F, Luque NR, Ros E, **Arleo A** (2019) VOR adaptation on a humanoid icub robot using a spiking cerebellar model. *IEEE Transactions on Cybernetics*, [Epub ahead of print]
7. Raphanel M, Shaughness G, H. Seiple W, **Arleo A** (2018) Current practice in low vision rehabilitation of age-related macular degeneration and usefulness of virtual reality as a rehabilitation tool. *Journal of Aging Science*, 6(2):194.
8. Huth J, Masquelier T, **Arleo A** (2018) Convis: A toolbox to fit and simulate filter-based models of early visual processing. *Frontiers in Neuroinformatics*, 12:9.
9. Sheynikhovich D, Bécu M, Wu C, **Arleo A** (2018) Unsupervised detection of microsaccades in high-noise regime. *Journal of Vision*, 18(6):1-16.
10. Luque NR, Naveros F, Carrillo RR, Ros E, **Arleo A** (2018) Spike burst-pause dynamics of Purkinje cells regulate sensorimotor adaptation. *bioRxiv*:347252.
11. Tartaglia EM, Boucly C, Tatur G, **Arleo A** (2018) Eye-movements as a signature of age-related differences in global planning strategies for spatial navigation. bioRxiv:481788.
12. Silvestre D, **Arleo A**, Allard R (2018) Internal noise sources limiting contrast sensitivity. *Scientific Reports*, 8(1):2596.
13. Brasselet R and **Arleo A** (2018) Category structure and categorical perception jointly explained by similarity-based information theory. *Entropy*, 20(7):527.
14. Huth J, Masquelier T, **Arleo A** (2017) Convis: A toolbox to fit and simulate filter-based models of early visual processing. *bioRxiv*:169284.
15. Nael V, Pérès K, Carrière I, Daien V, Scherlen AC, **Arleo A**, Korobelnik JF, Delcourt C, Helmer C (2017) Visual impairment, under corrected refractive error and activity limitations in older adults: findings from the 3C-Alienor study. *Investigative Ophthalmology & Visual Science*, 58(4):2359-65.
16. Allard R and **Arleo A** (2017) Factorizing the motion sensitivity function into equivalent input noise and calculation efficiency. *Journal of Vision*, 17(1):17.
17. Silvestre D, Cavanagh P, **Arleo A**, Allard R (2017) Adding temporally localized noise can enhance the contribution of target knowledge on contrast detection. *Journal of Vision*, 17(2):5.
18. Allard R, **Arleo A** (2017) Reducing luminance intensity can improve motion sensitivity in noise. *Scientific Reports*, 7:43140.
19. Jules Etienne C, **Arleo A**, Allard R (2016) Maximizing noise energy for noise-masking studies. *Behavioral Research Methods*, 49(4):1278-90.
20. Logiaco L, Quilodran R, Procyk E, **Arleo A** (2015) Spatiotemporal spike coding of behavioral adaptation in the dorsal anterior cingulate cortex. *PLoS Biology*, 13(8):e1002222.

21. **Arleo A**, Déjean C, Allegraud P, Khamassi M, Zugaro MB, Wiener SI (2013) Optic flow stimuli update anterodorsal thalamus head direction neuronal activity in rats. *Journal of Neuroscience*, 33(42):16790-5. [highlight in F1000Prime in 2014]
22. Sheynikhovich D, Otani S, **Arleo A** (2013) Dopaminergic control of LTD/LTP threshold in prefrontal cortex. *Journal of Neuroscience*, 33(34):13914-26.
23. Bologna LL*, Pinoteau J*, Passot J-B, Garrido JA, Vogel J, Ros Vidal E, **Arleo A** (2013) A closed-loop neurobotic system for fine touch sensing. *Journal of Neural Engineering*, 10(4):046019. [awarded as journal's highlight of 2013]
24. Passot J-B, Luque NR, **Arleo A** (2013) Coupling internal cerebellar models enhances online adaptation and supports online consolidation in sensorimotor tasks. *Frontiers in Computational Neuroscience*, 7(95).
25. Jarlier F*, **Arleo A***, Petit G, Fouquet C, Burguière E, Rondi-Reig L (2013) A Navigation Analysis Tool (NAT) to assess spatial behavior in open-field and structured mazes. *Journal of Neuroscience Methods*, 215(2):196-209.
26. Bengtsson F, Brasselet R, Johansson RS, **Arleo A**, Jörntell H (2013) Integration of sensory quanta in cuneate nucleus neurons in vivo. *PLoS ONE*, 8(2):e56630.
27. Passot J-B, Sheynikhovich D, Duvelle E, ***Arleo A*** (2012) Contribution of cerebellar sensorimotor adaptation to hippocampal spatial memory. *PLoS ONE*, 7(4):e32560.
28. Brasselet R, Johansson RS, **Arleo A** (2011) Quantifying neurotransmission reliability through metrics based information analysis. *Neural Computation*, 23(4):852-81.
29. Martinet L-E, Sheynikhovich D, Benchenane K, **Arleo A** (2011) Spatial Learning and Action Planning in a Prefrontal Cortical Network Model. *PLoS Computational Biology*, 7(5):e1002045.
30. Sheynikhovich D, Otani S, **Arleo A** (2011) The role of tonic and phasic dopamine for long-term synaptic plasticity in the prefrontal cortex: a computational model. *Journal of Physiology P*, 105(1-3):45-52.
31. Bologna LL, Pinoteau J, Brasselet R, Maggiali M, **Arleo A** (2011) Encoding/decoding of first and second order tactile afferents in a neurorobotic application. *Journal of Physiology P*, 105(1-3):25-35.
32. **Arleo A**, Nieus T, Bezzi M, D'Errico A, D'Angelo E, Coenen OJMD (2010) How synaptic release probability shapes neuronal transmission: Information theoretic analysis in a cerebellar granule cell. *Neural Computation*, 22(8):2031-58.
33. Sheynikhovich D, **Arleo A** (2010) A reinforcement learning approach to model interactions between landmarks and geometric cues during spatial learning. *Brain Research*, 1365:35-47.
34. Sheynikhovich D, Chavarriaga R, Strosslin T, **Arleo A**, and Gerstner W (2009) Is there a geometric module for spatial orientation? Insights from a rodent navigation model. *Psychological Review*, 116(3):540-66.
35. **Arleo A** and Rondi-Reig L (2007) Multimodal sensory integration and concurrent navigation strategies for spatial cognition in real and artificial organisms, *Journal of Integrative Neuroscience*, 6(3):327-66.
36. **Arleo A**, Chavarriaga R (2007) Multisensory integration and parallel memory systems for spatial cognition (editorial). *Journal of Integrative Neuroscience*, 6(3):1-4.
37. Burguière E, **Arleo A**, Hojjati MR, Elgersma Y, DeZeeuw CI, Berthoz A, and Rondi-Reig L (2005) Spatial navigation impairment in mice lacking cerebellar LTD: a motor adaptation deficit? *Nature Neuroscience*, 8(10):1292-4.
38. Boucheny C, Brunel N, **Arleo A** (2005) A continuous attractor network model without recurrent excitation: maintenance and integration in the head direction cell system. *Journal of Computational Neuroscience*, 18(2):205-27.
39. Zugaro MB*, **Arleo A***, Burguière E, Déjean C, Khamassi M, and Wiener SI (2004) Rat anterodorsal thalamic head direction neurons depend upon dynamic visual signals to select anchoring landmark cues. *European Journal of Neuroscience*, 20:530-6.
40. **Arleo A**, Smeraldi F and Gerstner W (2004) Cognitive navigation based on non-uniform Gabor space sampling, unsupervised growing networks, and reinforcement learning. *IEEE Transactions on Neural Networks*, 15(3):639-52.
41. Degris T, Sigaud O, Wiener SI, **Arleo A** (2004) Rapid response of head direction cells to reorienting visual cues: a computational model. *Neurocomputing*, 58-60C:675-82.
42. Zugaro MB, **Arleo A**, Berthoz A, and Wiener SI (2003) Rapid spatial reorientation and head direction cells. *Journal of Neuroscience*, 23(8):3478-82.
43. Wiener SI and **Arleo A** (2003) Persistent activity in limbic system neurons: neurophysiological and modelling perspectives. *Journal of Physiology P*, 97(4-6):547-55.
44. **Arleo A** and Gerstner W (2001) Spatial orientation in navigating agents: modeling head-direction cells. *Neurocomputing*, 38-40(1-4):1059-65.
45. **Arleo A** and Gerstner W (2000) Spatial cognition and neuromimetic navigation: A model of hippocampal place cell activity. *Biological Cybernetics*, 83:287-99.

46. **Arleo A**, Millán J del R, and Floreano D (1999) Efficient learning of variable-resolution cognitive maps for autonomous indoor navigation. *IEEE Transactions on Robotics and Automation*, 15(6):990-1000.

Peer-reviewed Proceedings (n=34)

1. Naveros F, Garrido JA, **Arleo A**, Ros E, Luque NR (2018) Exploring vestibulo-ocular adaptation in a closed-loop neuro-robotic experiment using STDP. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pages 1-9.
2. Jehenne B, Raspopovic S, Capogrosso M, **Arleo A** & Micera S (2015) Recording properties of an electrode implanted in the peripheral nervous system: a human computational model. In *IEEE EMBS Neural Engineering*, 482-5.
3. Pinoteau J, Bologna LL, Garrido J, **Arleo A** (2012) A closed-loop neurorobotic system for investigating Braille-reading finger kinematics. *LNCS—Haptics*, 7282:407-18.
4. Sheynikhovich D, Grèzes F, King JR, **Arleo A** (2012) Exploratory behaviour depends on multisensory integration during spatial learning. *LNCS—Artificial Neural Networks*, 7552:296-303.
5. Bologna LL, Pinoteau J, Garrido J, **Arleo A** (2012) Active tactile sensing in a neurorobotic Braille-reading system. *Proceedings of 4th IEEE Int Conf on Biomedical Robotics and Biomechatronics*, 1925-30.
6. Brasselet R, Johansson RS, **Arleo A** (2011) Isometric coding of spiking haptic signals by peripheral somatosensory neurons. *LNCS—Advances on Computational Intellige*nce, 6691:528-36.
7. Martinet L-E, **Arleo A** (2010) A cortical column model for multiscale spatial planning. *LNAI—Simulation of Adaptive Behavior*, 6226:347-58.
8. Passot J-B, Luque N, **Arleo A** (2010) Internal models in the cerebellum: a coupling scheme for online and offline learning in procedural tasks. *LNAI—Simulation of Adaptive Behavior*, 6226:435-46.
9. Sheynikhovich D, Dolle L, Chavarriga R, **Arleo A** (2010) Minimal model of strategy switching in the plus-maze navigation task. *LNAI—Simulation of Adaptive Behavior*, 6226:390-401.
10. Brasselet, R, **Arleo, A** (2010) Local metrical information: application to the perceptual magnet effect. In *Proceedings of the 5th French Conference on Computational Neuroscience*, 132-6.
11. Sheynikhovich D, Otani S, **Arleo A** (2010) A modeling study of the role of tonic vs. phasic dopamine input to the prefrontal cortex. In *Proceedings of the 5th French Conference on Computational Neuroscience*, 77-81.
12. Bologna LL, Brasselet R, Maggiali M, **Arleo A** (2010) Effective encoding/decoding of spiking signals from an artificial touch sensor. In Proceedings of the 5th French Conference on Computational Neuroscience, 120-5.
13. Martinet L-E, **Arleo A** (2010) A model of prefrontal columnar organisation for multiscale spatial planning. In *Proceedings of the 5th French Conference on Computational Neuroscience*, 167-72.
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Edition of special issues, books, dissertations (n=3)

1. **Arleo A** and Chavarriaga R (2007), editors, Special Issue on Multisensory integration and parallel memory systems for spatial cognition. *Journal of Integrative Neuroscience*, 6(3).
2. **Arleo A** (2005) The Neural Bases of Spatial Cognition and Information Processing in the Brain. *Thesis of Habilitation to Direct Research*, Life Sciences Discipline, University Pierre & Marie Curie, Paris.
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Book chapters (n=4)

1. Lagrené K & **Arleo A** (2017) Natural aging of visual functions. In Robert P-Y ed, 'French Society of Ophthalmology Report on Visual deficits', chpt. 3.2:41-6, Elsevier.
2. **Arleo A** (2016) Natural aging: vision and cognition. In 'CNRS Thematic Interdisciplinary Meeting CNRS: light, colors and societal issues, pages 141-149.
3. **Arleo A** & Rondi-Reig L (2010) Multimodal sensory integration and concurrent navigation strategies for spatial cognition in real and artificial organisms. In Dolins F and Mitchell R editors, Spatial Perception, Spatial Cognition, chpt 11:281-320, Cambridge University Press.
4. **Arleo A** & Gerstner W (2005) Head direction cells and place cells in models for navigation and robotic applications. In Wiener SI and Taube JS editors, Head direction cells and the neural mechanisms of spatial orientation, chapter 19:433-457, MIT Press.

Patents & Copyrights (n=8)

1. Method for determining an optical system an ophthalmic lens and ophthalmic filter determined by said method. In the name of Essilor International. File N. 17306047.6 (EPO, Aug 2017).
2. Method of analyzing a visual field of an individual and a corresponding ophthalmic lens. In the name of University Pierre and Marie Curie Sorbonne University & Essilor International. File N. 7B-0081 (EPO, Dec 2017).
3. Method for designing a filter to improve visual performance. In the name of Essilor International. (under submission)
4. Method for designing a personalized filter to maintain visual performance. In the name of Essilor International. (under submission)
5. Method for designing a filter to optimize visual perception. In the name of Essilor International. (under submission)
6. Method for behavioral assessment using motion capture systems in structured environments. In the name of University Pierre and Marie Curie Sorbonne University. (under submission)
7. Method to assess the impact of aging on visuo-spatial performance and to design ophthalmic solutions. In the name of Essilor International and University Pierre and Marie Curie Sorbonne University. (under submission)
8. Software NEural network Learning of VAriable grid-based Maps, European Copyright ref. 2545, 1997.

Software applications (n=2)

1. Huth J, Masquelier T, **Arleo A** (2017) Convis: a toolbox to fit and simulate filter−based models of early visual processing. GPL−3.0 license.
2. **Arleo A** & Jarlier F, Rondi-Reig L (2013) Software application NAT ("Navigation Analysis Tool"). GPL Licence.

Invited talks (n=47)

At international conferences & institutions (n=30)

1. Shanghai East China Normal University, China, 2019
2. European Vision Institute, Basel, Switzerland, 2018
3. Iberian Conference on Perception, Portugal, 2017
4. Laboratory of Psychophysics - EPFL, Switzerland, 2017
5. Société Française d'Ophtalmologie SFO'17, France, 2017
6. University of Lausanne, Switzerland, 2017
7. International Conference on Mathematical & Computational Neuroscience, Italy, 2016
8. International Workshop on Neuromorphic & Brain-Based Computing Systems, Grenoble, France, 2013
9. International BCCN Sparks Workshop on NeuroEngineering the Brain, Munich, Germany, 2013
10. International Workshop on Cerebellum Models, CNS, Paris, France, 2013
11. International Workshop on Early Touch, CNS, Paris, France, 2013
12. Okinawa OIST Computational Neuroscience, Okinawa, Japan, 2013
13. Italian Institute of Technology, Genova, Italy, 2012
14. International Work Conference on Artificial Neural Networks, Torremolinos, Spain, 2011
15. BioRobotics Institute, Scuola Superiore Sant'Anna, Pisa, Italy, 2011
16. International Conference on Mathematical Biology, Cagliari, Italy, 2010
17. Workshop on Tactile sensing, Humanoids'09 International Conference, Paris, France, 2009
18. Institute of Physiology, University of Lausanne, Switzerland, 2007
19. Brain & Mind Institute, EPFL, Lausanne, Switzerland, 2006
20. International Symposium on Spatial Perception and Cognition, APA Annual Meeting, USA, 2004
21. International Workshop on Neurorobotic Models in Neuroscience & Neuroinformatics, USA, 2004
22. International Workshop on Towards Artificial Rodents, Paris, France, 2004
23. International Conference on Embodied Artificial Intelligence, Max Planck Institute, Germany, 2003
24. International Symposium on Cognitive Robotics, Max Planck Institute, Germany, 2003
25. Brain & Mind Institute, EPFL, Lausanne, Switzerland, 2003
26. Brain & Mind Institute, EPFL, Lausanne, Switzerland, 2002
27. International Workshop on Theoretical Robotics, UK, 2002
28. Workshop on Brain bases of Spatial Orientation, France, 2002
29. XXVII International Ethological Conference, Germanhy, 2001
30. Institute for Systems, Informatics and Safety, Joint Research Centre (EU), Italy, 1999

At national conferences & institutions (n=17)

31. Société Française d'Ophtalmologie SFO Symposium ARIBA, France, 2018
32. Société Française d'Ophtalmologie SFO Symposium Optic-2000, France, 2016
33. Société Française de Réflexion Sensori-Cognitive, Paris, France, 2016
34. Ecole Mines Nimes, Nimes, France, 2016
35. ESSILOR R&D Rencontre de la veille, Créteil, France, 2016
36. Laboratory for Analysis and Architecture of Systems, CNRS, Toulouse, France, 2015
37. Institut du Fer à Moulin, Paris, France, 2013
38. Vision Institute, Paris, France, 2013
39. CEA – Nano-INNOV Center, Saclay, France, 2013
40. CNRS Defisens workshop TACT, Lyon, France, 2012
41. GDT Mathematics & Neuroscience, Institut Henri Poincaré, Paris, France, 2011
42. Unit of Neurophysics & Physiology, University Descartes P5, Paris, France, 2011
43. Unit of Neurobiology of Executive Processes, Inserm Lyon, 2011

44. Symposium Maths & Brain, Institute of Mathematics Jussieu UPMC, Paris, 2006
45. AnimatLab, Unit of Computer Science, UPMC, Paris, 2003
46. Symposium Maths & Brain, Institute of Mathematics Jussieu UPMC, Paris, 2003
47. Unit of Physiology of Perception and Action, Collège de France, Paris, 2001

Conference abstracts (oral & poster presentations) (n=97)

1. Agathos CP, Bécu M, Baranton K, Bernardin D, **Arleo A** (2019) Cognitive-motor interference in older adults while navigating in an ecological environment. In International Society for Posture and Gait Research World Congress (ISPGR), Seville.
2. Silvestre D, **Arleo A**, Allard R (2019) Considerable age-related contrast sensitivity loss due to less efficient cones. In ARVO Annual Meeting 2019, Vancouver, Canada.
3. Lagrené K, Bécu M, Seiple W, Raphanel Bataille M, Combariza S, Paques M, Aubois A, Duclos B, Girmens J-F, Eandi C, Mohand-Said S, **Arleo A** (2019) Healthy and pathological visual aging in a French follow-up cohort study. In ARVO Annual Meeting 2019, Vancouver, Canada.
4. **Arleo A**, Becu M, Tatur G, Sheynikhovich D (2019) Impact of healthy aging on ocular fixation stability and microsaccades during optic flow. In ARVO Annual Meeting 2019, Vancouver, Canada.
5. Bécu M, Tatur G, Sheynikhovich D, Ramanoel S, Agathos C, Ozier-Lafontaine A, **Arleo A** (2018) Age-related preference for geometric cues: when aging does not impair allocentric strategies. In iSCAN 2018, Magdeburg, Germany.
6. Bécu M, Tatur G, Sheynikhovich D, Ramanoel S, Agathos C, **Arleo A** (2018) Age-related preference for geometric cues during real-world navigation: behavioral and neuroimaging correlates. In Interdisciplinary Navigation Symposium (iNav), Mont-Tremblant, Canada.
7. Bécu M, Tatur G, Sheynikhovich D, Agathos C, Bologna LL, **Arleo A** (2018) Age-related preference for geometric cues during real-world navigation. In Forum of Neuroscience (FENS), Berlin, Germany, pages 345.
8. Bécu M, Tatur G, Sheynikhovich D, Ramanoel S, Agathos C, **Arleo A** (2018) Age-related preference for geometric cues during real-world navigation: behavioral and neuroimaging correlates. In Spatial Cognition 2018, Tübingen, Germany.
9. Huth J, Masquelier T, **Arleo A** (2018) What has Deep Learning ever done for us? Simulating the Visual System with convis. In 11th FENS Forum 2018.
10. Li T, **Arleo A**, Sheynikhovich D (2018) Bidirectional interactions between place-cells and grid-cells in the vision- and self-motion driven spatial representation model. In Spatial Cognition 2018, Tübingen, Germany, Berlin, Germany.
11. Li T, **Arleo A**, Sheynikhovich D (2018) Bidirectional interactions between place-cells and grid-cells in the vision- and self-motion driven spatial representation model. In 11th FENS Forum of Neuroscience, Berlin, Germany.
12. Li T, **Arleo A**, Sheynikhovich D (2018) Vision-based model of primate spatial cognition: coordinate transformations, limited visual field and reorientation. In 2nd Interdisciplinary Navigation Symposium, iNAV 2018, Quartier Tremblant, Canada.
13. Nael V, Scherlen AC, **Arleo A**, Helmer C (2018) Impact of sensory impairment on cognition and autonomy in older adults. In French Society of Ophthalmology, Paris, France.
14. Nael V, Monfermé S, Moreau G, Cougnard-Grégoire A, Scherlen A-C, **Arleo A**, Korobelnik JF, Delcourt C, Helmer C (2018) Uncorrected refractive errors in older adults: prevalence according to the presence of age-related eye disease. In ARVO 2017, Baltimora, USA.
15. Nael V, Moreau G, Pérès K, **Arleo A**, Scherlen A-C, Dartigues J-F, Tzourio C, Berr C, Delcourt C, Helmer C (2018) Visual loss and cognitive decline in older adults: resuls from a French population-based cohort study. In Alzheimer Association International Conference, Chicago, USA.
16. Boucly C, Tatur G, **Arleo A**, Tartaglia EM (2018) Eye-movements as a signature of age-related differences in global planning strategies for spatial navigation. In GDR ISIS 2018, Paris.
17. Silvestre D, **Arleo A**, Allard R (2018) Absorption efficiency of cones is considerably affected with heathy aging. In ECVP.
18. Bécu M, Tatur G, Bourefis AR, Bologna LL, Sheynikhovich D, **Arleo A** (2017) Age-related changes in gaze dynamics during real-world navigation. Journal of Vision – VSS'17, 17:540. (Poster)
19. Bécu M, Tatur G, Bourefis AR, Bologna LL, Sheynikhovich D, **Arleo A** (2017) Age-related changes in gaze dynamics during real-world navigation. ECEM, Wuppertal, Germany. (Poster)
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22. Ramanoël S, York E, Lagrené K, Habas C, **Arleo A** (2017) Age-related changes in functional connectivity and gray

matter integrity on scene-processing and spatial navigation networks. Neuroscience Workshop Saclay: Neural Circuits and Behavior, France. (Poster)

23. Bécu M, Ramanoël S, Tatur G, Lagrené K, Habas C, **Arleo A** (2017) Age-related changes in spatial learning of a real environment and gray matter integrity: a voxel-based morphometric study. Neuroscience Workshop Saclay: Neural Circuits and Behavior, France. (Poster)
24. Huth J, Masquelier T, **Arleo A** (2017) The "convis" framework: population simulation of the visual system with automatic differentiation using theano. CNS, Antwerp, Belgium. (Poster)
25. Huth J, Masquelier T, Allard R, **Arleo A** (2016) Using equivalent internal noise as a constraint on vision models. Bernstein Conf. for Computational Neuroscience, Berlin, Germany. (Poster)
26. Luque N, Naveros F, Carrillo R, Ros E, **Arleo A** (2017) Silent and bursting states of Purkinje cell activity modulate VOR adaptation. CNS, Antwerp, Belgium. (Poster)
27. Li T, **Arleo A**, Sheynikhovich D (2017) Coordinate-transformation spiking neural network for vision-based spatial orientation. Hippocampus meeting, Paris, France. (Poster)
28. Li T, **Arleo A**, Sheynikhovich D (2017) Coordinate-transformation spiking neural network for spatial navigation. CNS, Antwerp, Belgium. (Poster)
29. Scherlen A-C, Nael V, Helmer C, **Arleo A**, Korobelnik J-F, Delcourt C (2017) Uncorrected refractive errors in older adults: prevalence according to the presence of age-related eye disease. ARVO, USA. (Poster)
30. Nael V, Delcourt C, Dartigues J-F, **Arleo A**, Scherlen A-C, Pérès K, Helmer C (2017) Visual impairment and 12 years risk of dementia in older adults: a French population-based cohort study. Intern. Conf. on Alzheimer's and Parkinson's Diseases, Austria. (Poster)
31. Silvestre D, **Arleo A**, Allard R (2017) Spatiotemporal maps of quantal noise, dark light and late neural noise limiting contrast sensitivity. Journal of Vision – VSS'17, 17(10):785. (Poster)
32. Silvestre D, **Arleo A**, Allard R (2016) Contrast sensitivity: measuring late internal noise across spatial frequencies. Journal of Vision – VSS'17, 16(12):957. (Poster)
33. Allard R & **Arleo A** (2017) Photopic motion sensitivity at high temporal frequencies is limited by the dark light of the eye, not photon noise. Journal of Vision – VSS'17, 17:600. (Poster)
34. Huth J, Masquelier T, **Arleo A** (2017) Inspecting and optimizing vision models with ConVis. UPMC Symposium of Computational Neuroscience, Paris, France. (Oral presentation)
35. Huth J, Mayer E, Masquelier T, **Arleo A** (2017) Effects of Noise on Contrast Gain Control. In European Retina Meeting.
36. Li T, **Arleo A**, Sheynikhovich D (2017) Coordinate-transformation spiking neural network for spatial navigation. In 3e Symposium des Neurosciences Computationnelles de l'UPMC, Paris, France.
37. Lagrené K and **Arleo A** (2017) Vieillissement naturel des fonctions visuelles. In *Robert, P-Y., editors, Rapport Société Francaise d'Ophtalmologie 2017 - Déficiences Visuelles*, chpt. 3, pages 41-45, Elsevier.
38. Allard R, **Arleo A** (2016) Perception of global object motion without integration of local motion signals. European Conference on Visual Perception (abs), Barcelona, Spain. (Oral presentation)
39. Allard R, **Arleo A** (2015) The temporal efficiency function of the energy-based and feature tracking motion systems. Vision Science Society (VSS), Florida, USA. (Oral presentation)
40. Logiaco L, Deger M, SchwalgerT, **Arleo A**, Gerstner W (2015) A dynamic non-linear mean field method for networks of adapting neurons in the asynchronous state. In Beyond Mean Field Workshop, Gottingen, Germany. (Poster)
41. Brasselet R, Pinoteau J, Johansson RS, **Arleo A** (2014) Isometric mapping between environment and temporal neural activity. AREADNE, Greece. (Poster)
42. Logiaco L, Deger M, Schwalger T, **Arleo A**, Gerstner W (2014) Towards the control of bistable attractors by temporally modulated inputs. Bernstein Conference, Gottingen, Germany. (Poster)
43. Duvelle E, Hok V, Poucet B, **Arleo A** & Save E (2014) Goal coding and the hippocampus. Colloque NeuroMem – GDR Neurosciences de la Mémoire, Grasse, France. (Oral presentation)
44. Duvelle E, Hok V, Poucet B, **Arleo A**, Save E (2013) Goal-related firing and the representation of goal value in hippocampal place cells. French Society for Neuroscience Meeting, Lyon, France. (Poster)
45. Logiaco L, Quilodran R, Gerstner W, Procyk E, **Arleo A** (2013) Modulation of a decision-making process by spatiotemporal spike patterns decoding. CNS, Paris, France. (Poster)
46. Logiaco L, Quilodran R, Rothé M, Procyk E, **Arleo A** (2012) The spatiotemporal structure of anterior cingulate cortex activity contributes to behavioural adaptation coding. FENS, Barcelona, Spain.
47. Sheynikhovich D, Otani S, **Arleo A** (2012) The role of dopamine in LTP/LTD threshold modulation in the prefrontal cortex. FENS, Barcelona, Spain.
48. Martinet LE, Sheynikhovich D, Benchenane K, **Arleo A** (2011) Spatial learning and action planning in a prefrontal cortical network model. In Proceedings of the 10th French Society for Neuroscience Meeting, Marseille, France.
49. Passot JB, Sheynikhovich D, Rondi-Reig L, **Arleo A** (2011) A neurocomputational study of the role of the cerebellum in spatial cognition. In Proceedings of the 10th French Society for Neuroscience Meeting, Marseille, France.

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51. **Arleo A**, Brasselet R, Bologna LL, Pinoteau J, Jörntell H, Johansson RS (2011) Neural coding in the early stages of the somatosensory pathway: a metrical information theory analysis of human microneurography data. In Proceedings of the 10th French Society for Neuroscience Meeting, Marseille, France.
52. Sheynikhovich D, Otani S, **Arleo A** (2010) The role of dopamine in long-term plasticity in the rat prefrontal cortex: a computational model. In FENS Abstracts, vol. 5, 103.60, Amsterdam, Netherlands.
53. Brasselet R, Johansson RS, **Arleo A** (2010) Quantifying neurotransmission by taking into account the metrical properties of spike trains. In SIMAI—International Symposium on new trends in scientific computing: computational biology, Abs. N. 628, Cagliari, Italy.
54. Martinet LE, Sheynikhovich D, Benchenane K, **Arleo A** (2010) Integrating a hippocampal and a cortical model for spatial navigation planning, In: Proceedings of 14th International Conference on Cognitive and Neural Systems (ICCNS'10), Boston, USA.
55. Brasselet R, Johansson RS, **Arleo A** (2010) Quantifying neurotransmission through an entropy measure embedding spike train metrics. In International Workshop on the Shapes of Brain Dynamics, Paris, France.
56. Sheynikhovich D, Otani S, and **Arleo A** (2010) The role of dopamine in long-term plasticity in the rat prefrontal cortex: a computational model, In: Computational and Systems Neuroscience Conference (Cosyne2010).
57. Brasselet R, Johansson RS, Arleo, A (2010) Quantifying neurotransmission through an entropy measure embedding spike train metrics. In International Workshop on Dendrites, Neurones and Networks, Warwick, UK.
58. Brasselet R, Johansson RS, **Arleo A** (2010) Quantifying neurotransmission through an entropy measure embedding spike train metrics. In International Workshop on Spike Train Measures and Neural Coding, Plymouth, UK.
59. Bologna LL, Maggiali M, Sandini G, **Arleo A** (2009) Encoding/Decoding of spatiotemporal signals from an artificial touch sensor, In Humanoids Conference 2009, Paris, France.
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61. Martinet LE, Sheynikhovich D, Meyer JA, **Arleo A** (2009) Multimodal encoding in a cortical model for spatial navigation planning. BMC Neuroscience 10 (Suppl1): P338.
62. Brasselet R, Johansson RS, Coenen OJMD, **Arleo A** (2009) Fast encoding/decoding of haptic microneurography data based on first spike latencies. BMC Neuroscience 10 (Suppl1): P349.
63. Passot J-P, Rondi-Reig L, A. **Arleo A** (2009) Modeling cerebellar learning for spatial cognition. BMC Neuroscience 10 (Suppl1): P141.
64. Sheynikhovich D, Chavarriaga R, Strosslin T, **Arleo A**, Gerstner W (2009). Is There a Geometric Module for Spatial Orientation?: Insights From a Rodent Navigation Model. In: Proceedings of the 4th Computational Cognitive Neuroscience Conf, Boston, USA.
65. Sheynikhovich D, Otani S, **Arleo A** (2009) Role of dopamine for long-term plasticity in the rat prefrontal cortex: a computational model. In Renaud S and Saighi S, editors, Proceedings of the Conference NeuroComp, 4:P-30.
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67. Passot JB, Arabo A, Sheynikhovich D, Rondi-Reig L, **Arleo A** (2009) Studying the role of the cerebellum in spatial cognition through a neurocomputational approach. In: Proceedings of the Conference NeuroComp, 4:P-26.
68. Martinet LE, Sheynikhovich D, **Arleo A** (2009) A cortical column model for studying spatial navigation planning. In: Proceedings of the Conference NeuroComp, 4:P-24.
69. Martinet LE, Sheynikhovich D, Meyer JA, **Arleo A** (2009) A cortical column model for spatial navigation planning, In: Proceedings of the "Journées Francophones de Planification, Décision et Apprentissage", Paris.
70. Martinet LE, Sheynikhovich D, Meyer JA, **Arleo A** (2009) Multimodal encoding in a cortical model for spatial navigation planning, In: Colloque des Jeunes Chercheurs en Sciences Cognitives (Toulouse, France).
71. David FO, **Arleo A**, Leresche N, Lambert RC (2008) Dynamical effects of the T-current potentiation upon the oscillatory activity of thalamocortical neurons associated to sleep: a predictive model. FENS Abstracts, vol.4, 047.8.
72. David FO, **Arleo A**, Leresche N, Lambert RC (2008) Dynamical effects of the T-current potentiation upon the oscillatory activity of thalamocortical neurons associated to sleep: a predictive model. In: Workshop on Mathematical Neuroscience, Edinburgh, UK.
73. Bezzi M, **Arleo A**, Nieus T, D'Errico A, D'Angelo E, Coenen OJMD (2007) Information theoretic quantification of neural transmission following changes in release probability. In Proceedings of the International Conference on Computational and Systems Neuroscience, p. 284.
74. **Arleo A**, Battaglia FP, Déjean C, Zugaro MB, Wiener SI (2005) Rat anterodorsal thalamic head direction neurons are modulated by hippocampal theta rhythm. In Society for Neuroscience Abstracts, No. 198.18, Washington, DC, USA.

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76. Coener OJMD, Bezzi M, **Arleo A**, Nieus T, D'Errico A, D'Angelo E (2005) Quantitative characterization of information transmission in a single neuron. In Society for Neuroscience Abstracts, No. 823.3, Washington, DC, USA.
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