Ignasi COS, Ph.D.
Curriculum Vitae*

Place, Date of birth:	Barcelona; 06/12/1973	
Email & phone:	ignasi.cos@ub.edu	
	https://scholar.google.fr/citations?user=8qtPAsYAAAAJ&hl=en	
Current Appointment:	Serra-Hunter Assistant Professor	
	Facultat de Matemàtiques i Informàtica	
	Universitat de Barcelona	
	Gran Via de les Corts Catalanes 585	
	08007 Barcelona	
	Catalonia, SPAIN	
Current Funding Source:	2020-23	Human Brain Project (SGA3) – H2020 FETs Project
		Work-Package 2.9; PI and Co-Director
		COREDEM Project (1,300,000€)
Academic qualifications:	2024	Qualified Associate Professor, AQU Catalunya, SPAIN
	2016	Qualified Lecturer, AQU Catalunya, SPAIN
	2013	Qualified Maître des Conferences, FRANCE
	2000-06	Ph.D. Computational Neuroscience / Cognitive Science, Uni. Edinburgh, UK
	1997-98	MSc in Electronic Engineering, Polytechnic of Turin, ITALY
	1991-97	MSc in Telecommunication Eng., Polytechnic University of Catalonia, SPAIN
Teaching experience:	2001-02	Lecturer in Computing, Queen Margaret University College, Edinburgh, UK
	2001-05	Teaching Assistant in AI & Computer Science, The University of Edinburgh, UK.
	1998-99	Teaching Assistant in Control Theory, Technical University of Munich, GERMANY
	1997-98	Teaching Assistant in Optimization, Technical University of Munich, GERMANY
Research experience:	2019	Research Scientist in Cognitive / Computational Neuroscience
		Center for Brain & Cognition, Barcelona SPAIN
		(Prof. Ruben Moreno)
	2018	Visiting Researcher at Music in the Brain /
		Center for Music in the Brain (MIB), University of Aarhus, Aarhus, Denmark
		(Prof. Peter Vuust)
	2016-2018	Marie Curie Fellow
		Center for Brain & Cognition, UPF, Barcelona, SPAIN
		(Prof. Gustavo Deco)
	2015-2016	Postdoctoral Fellow in Cognitive / Computational Neuroscience
		ICM, Motivation, Brain & Behaviour Group, Paris FRANCE
		(Drs. Jean Daunizeau & Mathias Pessiglione)
	2012–14	Research Scientist in Computational Neuroscience
		ISIR, CNRS-UPMC, Paris, FRANCE
		(Drs. Benoit Girard & Emmanuel Guigon)
	2008-12	Post-doctoral Fellow in Motor Control and Decision-Making
		Department of Neurophysiology, Cisek Laboratory, Univ. Montreal, CANADA
		(Prof. Paul Cisek)
	2006-07	Research Scholar in motor control and BMI
		Helen Wills Neuroscience Institute, BMI Lab, UC Berkeley, USA.
		(Prof. Jose Carmena)
	2005-06	Visiting Researcher in Adaptive Systems
		School of Computer Science, Univ. Hertfordshire, UK
		Computer Science and Emotion Laboratory (Prof. Lola Cañamero)
	2000-05	PhD, IPAB, School of Informatics, University of Edinburgh, Scotland, UK
		Thesis title: Ecological Perception in the Context of an Actor-Critic
		(Profs. Gillian M. Hayes & Lola Cañamero, Dr. Andrew Gillies)
	1998-99	Research Scholar, Dept. Automatic Ctrl., Tech. Univ. Munich, GERMANY
		Control Algorithms for Rehabilitation (Dr. Thomas Fuhr)
	1996-97	Research Scholar, Dept. Int. Circuits, Tech. Univ. Munich, GERMANY
		Optimization of Electrical Circuits (Dr. Christian Drewes)
Professional experience:	2005-06, 99	Senior Consultant at Information Highway Group (IHG), Barcelona, SPAIN
		Professional Web Software Development (Prof. Rafael Pous)
	1997-98	Research Engineer, Siemens A.G., Munich, GERMANY
		Optimization Algorithms for Communications (Karl-Heinz Moerman)

Fellowships, Grants & Honours:

2021	H2020 FET Grant (HBP SGA3): COREDEM Project, EU
2022	Proyecto Redes Mineco
2023	SGR Consolidated Group
2019	Teaching Support, Universitat de Barcelona
2018	AUFF Researcher Grant, Aarhus University, Denmark
2016-18	Marie Curie Intra-European Fellowship (IIF) – 158,000€ (Top 2%)
2012-14	Research Grant, Ville de Paris with Dr. Girard, Dr. Khamassi – 350,000€
2011	Postdoctoral Fellowship, Wallonie-Bruxelles International (WBI), Belgium
2008-11	Postdoctoral Fellowship, NSERC/CIHR/GRSNC, University of Montreal
2006-07	Postdoctoral Fellowship, HWNI/EECS, UC Berkeley, USA
2001-03	Graduate School Fellowship, The University of Edinburgh, UK
2000-01	Doctoral Fellowship, The British Council UK/La Caixa, SPAIN
1997	Suma Cum Laude, MEng. Dissertation, TU Catalonia, SPAIN

Summary of Scientific Contributions:
- 20 (+6) Papers in international journals and important international conferences
- H-index/i-index 11 (https://scholar.google.fr/citations?user=8qtPAsYAAAAJ&hl=fr)
- 1 Invited Review in international journal
- 10 articles in peer-reviewed proceedings
- 18 conference abstracts (both poster and oral presentations)
- 25 external invited oral presentations
- 1 book chapter
- 2 books/dissertations
- 1 copyright/license
- Total number of contributions: 45(+4)
- Highest number of citations per paper: 75(Google Scholar)
- Total number of citations: 354 (Google Scholar)

Postgraduate Supervision:
- 2024 (FMI, UB): Manuel Hernández Alonso (MSc Thesis) with Prof. Oriol Pujol.
- 2024 (FMI, UB): Alejandro Astruc Lopez (MSc Thesis)
- 2024 (FMI, UB): Flavia Ferrus (MSc Thesis).
- 2024 (FMI, UB): Sergio Rodriguez Llana (MSc Thesis), Co-supervision with Prof. Petia Radeva.
- 2023 (FMI, UB): Aina Farré (PhD Student). Co-supervision with Profs. Carles Casacuberta and Oriol Pujol.
- 2021 (FMI, UB): Gloria Cecchini (Postdoctoral Fellow).
- 2021 (Master Thesis, FMI, UB): Montse Comas (MSc Student). Cosupervision with Prof. Oriol Pujol.
- 2021 (Master Thesis, FMI, UB): Fritz-Pere Nobbe (MSc Student). Co-supervision with Prof. Carles Casacuberta.
- 2021 (Master Thesis, FMI, UB): David Farré (MSc Student). Co-supervision with Prof. Sergio Escalera.
- 2020 (FMI, UB): Michael Depass (PhD Student).
- 2019- (Université Catholique de Louvain, Brussels, Belgium): Fanny Fievez (PhD Student). Co-supervision with Professor Julie Duqué.
- 2019-22 (CBC, UPF): Devin Ozbagci (PhD Student). *Decision-Making and Action.* Co-supervision with Prof. Ruben Moreno-Bote and Salvador Soto-Faraco.
- 2018 (CBC, UPF): Gizem Senel. MSc Student. Metrics of multi-option planning in value-based decision-making. Co-supervision with Professor Ruben Moreno-Bote (Pompeu Fabra University).
- 2017 (CBC, UPF): Angela Marti-Marca. MSc Student. Under which circumstances do we represent multiple plans when making decisions between reaching movements? Does this multiple representation hold after movement onset? Primary supervisor.
- 2017-2022 (CBC, UPF): *Andrea Riquelme*. PhD Student. Motor metrics of social motivation onto decision-making tasks Co-supervision with Prof. Nuria Sebastian-Galles.
- 2013-15 (AMAC Team, ISIR & SPECS, UPF, Barcelona): *Encarni Marcos.* Co-supervision of her PhD thesis together with Dr. Paul Verschure. Project: Embodied Decision-Making and its Neural Substrate.
- 2012-2013 (AMAC Team, ISIR): *Jean Lienard*. Co-supervision of his PhD thesis together with Dr. Benoit Girard. Modeles des Ganglions de la Base: Etude de l'Anatomie fonctionnelle et de la Pathophysiologie a l'aide d'algorithmes evolutionnistes Multi-Objectifs.
- 2004-05 (School of Informatics, University of Edinburgh): *Theodoros Damoulas*. Co-supervision of his MSc thesis with Dr. Gillian Hayes at the University of Edinburgh. Adaptation of Valency for Homeostatic Agents.

Undergraduate Supervision:
- 2023-24 (Undergraduate Final Project, FMI, UB): Marc Burillo.
- 2023-24 (Undergraduate Final Project, FMI, UB): Martí Pirla
- 2023-24 (Undergraduate Final Project, FMI, UB): Arnau Martínez Tomás.
- 2022-23 (Undergradute Final Project, FMI, UB): Luca Eric Di Croce.
- 2022-23 (Undergradute Final Project, FMI, UB): Claudia Boixadé, Co-supervision with Prof. J. Vives.
- 2022-23 (Undergradute Final Project, FMI, UB): Gabriel Vaya, Co-supervision with Prof. J. Vives.
- 2022-23 (Undergradute Final Project, FMI, UB): Manuel Hernández Alonso
- 2022-23 (Undergradute Final Project, FMI, UB): Rubén Gimbert, Co-supervision with Prof. Marc Soler
- 2022-23 (TFM, FMI, UB): Junjie Ji.
- 2021-22 (Undergradute Final Project, FMI, UB): Andrei Moldovanu.

- 2021-22 (Undergradute Final Project, FMI, UB): Xènia Domènech.
- 2021-22 (Undergradute Final Project, FMI, UB): David de la Osa. Co-supervision with Prof. Jose Vives.
- 2021-22 (Undergradute Final Project, FMI, UB): Alejando Lendinez. Co-supervision with Prof. Jacob Solís.
- 2021-22 (Undergradute Final Project, FMI, UB & IIT, UPF): Adolfo Dominguez (TFG). Co-supervision with Prof. Jacob Solís

- 2020 (Undergradute Final Project, FMI, UB): Lluis Montabes.
- 2020 (Undergradute Final Project, FMI, UB): Claudia March Piris.
- 2014 (AMAC Team, ISIR): *Guillaume Legendre*. MSc Student. The influence of decision in the choice of movement parameters. Co-supervision with Dr. Emmanuel Guigon.
- 2010 (Dept. of Physiology, University of Montreal): *Nicolas Belanger*. Co-supervision of his MSc thesis with Dr. Paul Cisek. The influence of biomechanics on decision-making. An overview.
- 2011 (Dept. of Physiology, University of Montreal): *Farid Medleg*. Co-supervision of his MSc thesis with Dr. Paul Cisek. The influence of biomechanics on postural control.

Active Collaborations:
- 2021-now Prof. Matthieu Gilson, Department of Neuroscience, Université de Marseille-Aix en Provence, FRANCE
- 2020-now Prof. Numa Dancause, Department of Neuroscience, Université de Montréal, Montréal, CANADA
- 2019-now Prof. Julie Duque, Department of Neuroscience, Universite Catholique de Louvain, Brussels, BELGIUM
- 2016-now Prof. *Julie Messier*, Department of Kinesiology, Universite de Montreal, Montreal, CANADA. The influence of motivation on the motor control of Parkinsons' Patients.
- 2016-now Dr. *Jean Daunizeau*. Motivation, Brain & Behaviour Group, Institut du Cerveau et de la Moelle Epiniere, Paris, FRANCE. The interaction between the motivational system and the control of motor precision tasks.
- 2010-now *Prof. Paul Cisek*. Department of Neuroscience, Universite de Montreal, CANADA. A theoretical study of the trade-off between gains and motor costs for decision-making.

RESEARCH EXPERIENCE:

Journal Papers & Prestigious Conference Papers

Under Review
1. **Cos, I.**, Deco, G., Gilson M. (2023). Behavioural and Neural Correlates of Social Facilitation/Pressure during Decisions between Precision Movements. Under review at Communications Biology. PrePrint available at: (https://www.researchsquare.com/article/rs-1974463/v1.pdf)
2. Cecchini G., Depass M., Baspinar E., Andujar M., Ramawat S., Pani P., Ferraina S., Destexhe A., Moreno-Bote R., **Cos I.** (2023) A theoretical formalization of consequence based decision-making. Under Review at ENeuro. Preprint available at: https://www.biorxiv.org/content/10.1101/2023.02.14.528595v1)
3. Baspinar E., Cecchini M., Depass M., Andujar M., Pani P., Ferraina S., Moneno-Bote R., **Cos I.**, Destexhe A. (2023). A biologically plausible decision-making model based on interacting cortical columns. Under Review at Neural Networks. (Preprint available at: https://www.biorxiv.org/content/10.1101/2023.02.14.528595v1).
4. Ozgabci D**.,** Soto-Faraco S., Moreno-Bote S., **Cos I** (2024) Physical effort imposes urgency in decision-making: Evidence from speed-accuracy trade-offs an pupilometry. Under Review at JNeurophys.
5. **Cos I.**, Senel G., Maldonado P.E., Moreno-Bote R. (2023) Gaining Confidence by Gazing-At-Nothing during decision-making. Under Review at Scientific Reports.
6. Fievez F., **Cos I.**, Carsten T., Derosiere G., Zenon Z., Duque J. (2023) Task goals shape the relationship between decisión and movement speed. Under review at J Neurophys.
7. Diaz-Badilla EN., **Cos I.**, Sammpieri C., Vilaseca I., Balocco S., Radeva P. (2024) Predictive Analysis of Clinical Features for HPV Status in Oropharynx Squamous Cell Carcinoma: A Machine Learning Approach with Explainability. Under Review at the Journal of Computer Methods and Programs in Biomedicine Update.

Published
8. Liénard J.F., Aubin L., **Cos I.**, Girard B. (2024) Beta-band oscillations without segregated pathways: the opposing roles of D2 and D5 receptors in the Basal Ganglia. European Journal of Neuroscience. doi: 10.1111/ejn.16271
9. Ferrà A., Cecchini G., Nobbe-Fissas F.-P., Casacuberta C., **Cos I.** (2023) A topological classifier to characterize brain states: When shape matters more than variance. PLoS One, 18(10):e0292049.
10. Depass, M., Falaki, A., Quessy, S., Dancause, N., **Cos. I.** (2022) A machine learning approach to characterize sequential movement-related states in premotor and motor cortices. Journal of Neurophysiology, vol. 127 (5).
11. **Cos, I.,** Pezzulo, G., Cisek P. (2021). Changes of Mind after Movement Onset Depend on the State of the Motor System. ENeuro 8 (6) eNeuro 0174-21.2021.
12. Marti-Marca, A., Deco, G., **Cos, I.** (2020) Temporal unfolding of value-based decision-making after movement onset. Scientific Reports 10:15527
13. Fievez F., **Cos, I.**, Derosiere G., Quolin C., Lambert J., Duque J. (2019) Action preparation: an Integrated Perspective of Choice and Motor Control. Frontiers in Neuroscience. Doi: 10.3389/conf.fnins.2019.96.00081.
14. Lienard, J., **Cos, I.,** Girard, B. (2018) A model of how transmission delays within the basal ganglia cause beta-band oscillations in Parkinson's disease. Biorxiv. 10.1101/161661
15. **Cos, I.** (2017) Perceived Effort for motor control and decision-making. PLoS Biology, vol. 15, issue 8, p.e2002885.
16. Linares, D., **Cos, I.**, Roseboom, W. (2016) Adaptation for multisensory relative timing. Current Opinion in Behavioral Sciences, 8:35—41.
17. **Cos, I.**, Girard, B. and Guigon, E. (2015). The distribution of movement and dwell intervals: optimizing variability. Journal of Neurophysiology, 112(6):1256—1266.
18. Marcos, E., **Cos, I.,** Girard, B., Verschure, P.M.J. (2015). Motor costs influence perceptual decisions. PLoS One, 10(12): e0144841
19. Thura, D., **Cos, I.**, Trung, J. and Cisek P. (2014). Relationships between speed-accuracy trade-offs in decision-making and movement execution. Journal of Neuroscience, 34(49):16442-54.
20. **Cos, I.,** Duque, J., and Cisek, P. (2014). Rapid prediction of biomechanics during action decision. Journal of Neurophysiology, Journal of Neurophysiology, 112: 1256—1266.
21. **Cos, I.**, Khamassi, M. and Girard, B. (2013). Modelling the Learning of Biomechanics and Visual Planning for Decision-Making of Motor Actions. Journal of Physiology – P, 107 (5) 399—408.
22. **Cos, I.**, Cañamero, L., Hayes, G.M. and Gillies, A. (2013). Hedonic value: enhancing adaptation for motivated agents. Adaptive Behavior, 21(6) 465—483.
23. **Cos, I.,** Medleg, F. and Cisek, P. (2012). The modulatory influence of end-point controllability on decision-making of motor actions. The Journal of Neurophysiology, 105(6) 1764—1780.
24. **Cos, I.,** Bélanger, N. and Cisek, P. (2011). The influence of predicted arm biomechanics on decision-making. Journal of Neurophysiology, 105(6) 3022—3033, March 2011.
25. **Cos, I.,** Cañamero, L. and Hayes, G.M. (2010). Learning Affordances of Consummatory Behaviors: Motivation-Driven Adaptive Perception. Adaptive Behavior, 18(3-4), June 2010.
26. Damoulas, T., **Cos, I.**, Hayes, G., and Taylor, T. (2005). Valency for Adaptive Homeostatic Agents: Relating Evolution and Learning. VIII European Conference on Artificial Life. September 2005. Canterbury (UK).
27. **Cos, I.**, Cañamero, L. and Hayes, G. (2005). Integration of Affordances and Drives for Behaviour Selection. *Proceedings of the Modelling Natural Action Selection* (MNAS) Workshop at the International Joint Conference of Artificial Intelligence (IJCAI2005), Edinburgh, UK.
28. **Cos, I.**, Cañamero, L. and Hayes, G. (2003). Motivation-Driven Learning of Object Affordances: Experiments using a Simulated Robot. The Logic of Cognitive Systems: Proceedings of the 5th International Conference in Cognitive Modeling (ICCM03), pp. 57—62, Universitäts Verlag Bamberg, Bamberg, Germany.

In Preparation

29. Cecchini G., Depass M., Moreno-Bote R., Cos I. (2023) Uncertainty promotes learning during consequence-based decision-making: Behavioural and ocular correlates. In Preparation
30. **Cos, I.**, Oudiette, D., Pessiglione, M., Daunizeau, J. (2023) The Rewarding Grasp: A Cost-Benefit Analysis of Reward-Driven Force Production..
31. **Cos, I.,** Deco, G. (2023) The influence of Social Motivation onto Motor Control and Decision-Making Theory: A Theoretical Approach.
32. **Cos. I.,** Messier, J., Deco, G., Gilson, M. (2023) A Theoretical Model of Parkinson's Disease and the Control of Movement in Precision Tasks.

Additional Peer-Reviewed Articles in Conference Proceedings

33. **Cos, I.**, Cisek, P. and Girard, B. (2012). A Modelling Perspective on the Role of Biomechanics in Motor Decision-Making. In Proceedings of the NEUROCOMP Conference, July 2012, Bordeaux (France).
34. Damoulas, T., **Cos, I**. and Hayes, Gillian M. (2005). Valency as a Mechanism for Agent Adaptation. *Proc. of Towards Autonomous Robotics Systems* (TAROS), London, September (UK).
35. **Cos, I.**, Cañamero, L., and Hayes, G. (2005). Motivation-Driven Learning of Action Affordances. In L. Cañamero, *Proc. Agents that Want and Like: Motivational and Emotional Roots of Cognition and Action,* Symposium of the AISB'05 Convention, Hertfordshire (UK).
36. **Cos, I.**, Cañamero, L. and Hayes, G. (2004). Using a SOFM to learn Object Affordances. *Proceedings of the 5th Workshop of Physical Agents* (WAF'05), Girona (Spain).
37. **Cos, I.**, Cañamero, L. and Hayes, G. (2003). Learning Object Functionalities in the Context of Behaviour Selection. Proceedings of the British Conference on Mobile Robotics: Towards Intelligent Mobile Robotics (TIMR), Bristol (UK).
38. **Cos, I**. and Hayes, G. (2002). Behaviour Control Using a Functional and an Emotional Level. *Proceedings of the 7th Conference of Simulation on Adaptive Behavior*, Edinburgh (UK).

Conference Abstracts

39. Cecchini G., Depass M, Moreno-Bote R, **Cos I.** (2023). A theoretical formalization of Consequence-Based Decision-Making. 10th Symposium on Biology of Decision-Making, Paris, France.
40. Cecchini G., **Cos I.** (2023). A theoretical formalization of Consequence-Based Decision-Making. Barcelona Computational, Cognitive and Systems' Neuroscience, BARCSYNC 2023.
41. Cecchini G, Baspinar E, Depass M, Destexhe A, Moreno-Bote R, **Cos I** (2022). Consequential Decision-making model and experiment. Poster Presentation (SfN). San Diego, CA, USA.
42. Consequential Decision-making model and experiment. Cecchini G, Depass M, **Cos I.** HBP Summit 2021. Universitat de Barcelona, Barcelona, Spain
43. Cecchini G, Depass M, **Cos I.** (2022) Two meanfield framework for consequential, reward-driven decision-making (2022) Invited Presentation. 1st COREDEM Workshop, Universitat de Barcelona, barcelona, Spain.
44. **Cos I** (2022) A mathematical chracterizations of brain states: A clinical (future) reality. Jornada Funció de Dades – La Funció de les dades al món biomèdic. IEC, Barcelona, Spain.
45. Cecchini G, Depass M, Moreno-Bote R, **Cos I** (2021) Mean-field model of consequential reward-driven decion-making. Oral Presentation. Amsterdam, The Netherlands.
46. Depass M, Cecchini G, **Cos I.** (2021) A mesoscopic characterization of sequential movement related neuro-motor states in premotor and motor cortices: a machine learning approach. Invited seminar at 14th International conference on neural coding, USA
47. Cecchini G, Depass M, **Cos I.** (2021) A computational model of reward-driven decion-making. Invited seminar at Neural Control of Movement Conference, Vancouver, Canada
48. **Cos I**, Gilson M, Deco G (2019) A computational model of social motivation and effort. Organization for Computational Neurocience (CNS 2019), OCNS, Barcelona, Spain.
49. **Cos I** (2019) From motor control to decision-making. Invited speaker at Workshop on Visuo-motor integration. European Institute of Theoretical Neuroscience, Paris, France.
50. **Cos I,** Izaguirre N, Gilson M, Deco G (2019) Mapping Social Motivation with Functional Connectivity on EEGs. Poster presentation. Poster presentation at Society for Neuroscience (SfN), Chicago IL, USA
51. **Cos, I.,** Deco, G. The Influence of Social Motivation on Decisions between Movements. Barcelona Computational, Cognitive and Systems' Neuroscience (BARCSYNC), June 2018.
52. **Cos, I**., Deco, G. The Influence of Social Position on reaching Precision. Symposium Biological Decision-Making, Poster presentation, May 2018.
53. **Cos, I.,** Deco, G. The effect of motivation onto movement selection. SfN Nanosymposium, Washington DC, October 2017.
54. Marti, A., Deco, G., **Cos, I**. Reward, Embodiment and Ongoing Motion. Barcelona Computational, Cognitive and Systems Neuroscience Conference (BARCSYNC) June 2017.
55. Lienard, J., Bellot, J., **Cos, I.,** Khamassi, M., Girard, B. Transmission delays in the basal ganglia are sufficient to explain beta-band oscillations in Parkinsons' Disease: Mean-field and reduced models. Workshop on Neural population dynamics. Gif-sur-Yvette (France). February 2015.
56. **Cos, I.**, Girard, B. (2014). A risk model for locomotion tasks. Society for Neuroscience (SfN), Washington DC, November 2014.
57. Marcos, E., **Cos, I.**, Cisek, P., Girard, B and Verschure P. (2014). The motor cost of actions biases perceptual decisions. Fourth Symposium on Biology of Decision-Making (SBDM 2014). Paris
58. **Cos, I.,** Girard, B, and Guigon, E. (2013). Workshop on Translational and Computational Motor Control (TCMC), San Diego, CA, November 2013.
59. Lienard, J., **Cos, I.,** and Girard, B. (2013). A model of how transmission delays inside the basal ganglia proper cause beta-band oscillations in Parkinson's disease. Society for Neuroscience (SfN), San Diego, CA, November 2013.
60. **Cos, I.**, Rueda-Orozco, P., Robbe, D. and Girard, B. (2013). How to attain reward: a speed-accuracy trade-off. Society for Neuroscience (SfN), San Diego, CA, November 2013.

61. **Cos, I.,** Rueda-Orozco, P., Robbe, D. and Girard, B. (2013). Learning a sequence of motor responses to attain reward: a speed-accuracy trade-off. Computational Neuroscience Conference (CNS), Paris, France. July 2013.
62. Marcos E., **Cos I**., Cisek P., Girard B., Verschure P (2013). Biomechanical costs of reaching movements. Computational Neuroscience Conference (CNS), Paris, France. July 2013.
63. **Cos, I.,** and Cisek, P. (2012). A Study of the Time-Course of Biomechanics and Visual Information during Motor Decision-Making. In the Federation of European Neuroscience Societies (FENS2012), Barcelona, Catalonia, Spain.
64. **Cos, I.,** and Cisek, P. (2012). Revealing the Time-Course of biomechanics and visual planning during motor decision-making, Second Symposium on Decision-Making, Institut du Cerveau et de la Moelle Epinière (ICM), la Pitié-Salpêtrière, Paris, France.
65. **Cos, I.,** and Cisek, P. (2012). The Time-Course of Biomechanics and Visual Planning on Decision-Making. Conference of Neural Control of Movement (NCM2012), Venice, Italy.
66. **Cos, I**., Medleg, F. and Cisek, P. (2011). The influence of predicted arm biomechanics on decision-making, CPS, Hotel Mount Gabriel, Sainte-Adèle, Québec, Canada.
67. **Cos, I**., Medleg, F. and Cisek, P. (2010). The influence of predicted arm biomechanics on decision-making. In the Society for Neuroscience Meeting, San Diego, USA.
68. **Cos, I**., Cisek, P. (2010). The influence of predicted arm biomechanics on decision-making. In the Federation of European Neuroscience Societies (FENS2010), Amsterdam, Holland.
69. **Cos, I**., Cisek, P. (2009). The influence of predicted arm biomechanics on decision-making. In: Breathe, Walk and Chew: The Neural Challenge. The 32nd International Symposium of GRSNC. Montreal, QC, Canada: 2009 Canada.
70. **Cos, I.,** Cisek, P. (2009). Biomechanical Influences on Decision Making. Neural Control of Movement Yearly Meeting (NCM2009), Hawaii, Hawaii, USA.
71. **Cos, I.,** Cañamero, L., Hayes, G. (2008). Ecological Perception for Selecting Behaviours. Canadian Neuroscience Association Yearly Meeting (CANN2008), Montreal, Québec, Canada.
72. **Cos, I**., Gillies, A. (2003). Is an Actor-Critic Sufficient to Learn Action Affordances? A Robotic Approach, *Poster and abstract presented at Society for Neuroscience*, New Orleans, USA.

Book Chapters and Dissertations:
73. **Cos, I.** (2006). Ecological Adaptation in the Context of an Actor-Critic. **Ph.D. Thesis**, School of Informatics, University of Edinburgh, UK.
74. Damoulas, T., **Cos, I.**, Hayes, G., and Taylor, T. (2005). Valency for Adaptive Homeostatic Agents: Relating Evolution and Learning. Advances in Artificial Life. Lecture Notes in Artificial Intelligence (LNAI) 3630, pp. 936–945.
75. **Cos, I.** (1997). System Concepts for Wide Band Mobile Communications. **M.Eng. thesis**, Technical University of Munich, Germany; Politecnico di Torino, Italy; Polytechnic University of Catalonia, Spain.

Invited Oral Communications (26):
- 2024
- 2021 Neural Coding 2021. A Mesoscopic Characterization of Sequential Movement related Neuro-motor States in Premotor and Motor Cortices: A Machine Learning Approach. Michael DePass, Ali Falaki, Stephan Quessy, Numa Dancause and Ignasi Cos.
- 2018 Barcelona Computational, Cognitive and Systems' Neuroscience Conference (BARCSYNC), invited seminar, "The Influence of Social Motivation on the Selection of Motor Parameters: a combined experimental and theoretical approach".
- 2017 Dept. of Neuroscience, Universitat de Barcelona, Spain. "The Influence of Motivation on the Selection of Movement Parameters".
- 2015 Dept. of Neuroscience, Université Victor Segalen, Bordeaux (FRANCE). "When to Move and when to Dwell: finding Comfort in Variability", invited seminar by T. Boraud.
- 2014 Dept. of Physiology, University of Oxford (Oxford, UK). "Motor Control is Decision-Making and Decision-Making is Motor Control", invited seminar by P. Brown.
- 2014 INSERM U308 of Lyon (Lyon, France). "Decision-making and motor control: the prediction of movement parameters", invited seminar by E. Prozyck.
- 2014 ISIR, Université Pierre et Marie Curie (Paris, France). "The relationship between time and motor control", invited seminar at Institute of Intelligent Systems and Robotics.
- 2014 ICM, Université Pierre et Marie Curie (Paris, France). Title: "When to dwell and when to move: finding comfort in variability", invited seminar by M. Pessiglione.
- 2013 Department of Neuroscience, Université Paris V, Descartes (Paris, France). "When to dwell and when to move: finding comfort in variability", invited seminar by A. Leblois.
- 2013 Laboratoire d'Informatique, de Robotique et de Microelectronique de Montpellier. (Montpellier, France). "Selecting the parameters of movement: when to dwell and when to move", invited seminar at the department of Neuroscience.
- 2013 Department of Neuroscience, invited seminar at the Université Montpellier I (Montpellier, France). "Selecting the parameters of movement", invited seminar by F. Bardy.
- 2013 Department of Neuroscience, Université de Montréal (Montreal, QC, Canada) "The influence timing on on visual decisions", invited seminar by Dr. Paul Cisek.
- 2013 Department of Neuroscience, Portland State University (OR, USA) "Making motor decisions: from visual decision-making to biomechanics", invited seminar by Dr. Jean Lienard.
- 2012 Department of Neuroscience, Université de Grenoble (Grenoble, France) "A Study of the Temporal Integration of Visual Planning and Biomechanics in Decision-Making of Motor Actions", invited seminar by Prof. Pascal Perrier.
- 2012 Synthetic, Perceptive, Emotive and Cognitive Systems Group. Universitat Pompeu Fabra (Barcelona, Spain). "The modulatory influence of end-point controllability on decision-making of motor actions", invited seminar by Paul Verschure.
- 2012 Institute of Robotics. Université Pierre et Marie Curie (Paris, France). "The influence of end-point controllability on action selection", invited seminar by Emmanuel Guigon.
- 2011 Canadian Physiological Society Workshop (St. Adele, Canada). "Action Selection biased by Arm Biomechanics".
- 2011 GRSNC, Departement de Physiologie, Université de Montréal (Montreal, Canada) "Action Selection biased by Arm Biomechanics".

- 2011 Institute of Robotics. Université Pierre et Marie Curie (Paris, France).
- 2010 Institute of Biomedical Research August Pi-i-Sunyer (IDIBAPS), University of Barcelona (Barcelona, Spain).
- 2009 Department of Neuroscience, Université Catholique de Louvain (Brussels, Belgium).
- 2009 GRSNC, Departement de Physiologie, Université de Montréal (Montreal, Canada). "The influence of biomechanics on decision-making".
- 2009 Department of Computer Science, University of Massachusetts (MA, USA). "The influence of biomechanics on decision-making".
- 2009 Department of Physiology, Universitat Autònoma de Barcelona (Barcelona, Spain). "The influence of biomechanics on decision-making".
- 2008 Department of Kinesiology, Université Catholique de Louvain (Louvain-la-Neuve, Belgium).
- 2007 Dept. of Neuroscience, Bar-Ilan University (Ramat-Gan, Israel)
- 2005 European Conference on Artificial Life (Canterbury, UK).
- 2005 Conference Towards Autonomous Mobile Robotics (TAROS), Imperial College (London, UK)
- 2005 Group of Theoretical Neuroscience, University Pompeu Fabra, 2005.
- 2004 School of Computer Science, University of Alicante (Alicante, Spain). Multidimensional Self-Organizing Feature Maps.
- 2004 Institute of Neuroscience of Alicante. Invited Seminar by Albert Comte.
- 2003 Duke Medical Center, Duke University, Duke (USA). "Can the Basal Ganglia learn to select actions?"
- 2003 10th International Conference of Cognitive Modelling (Bamberg, Germany). Learning Affordances: Preliminary Results using Mobile Robots.
- 2001 Institute of Perception, Action and Behaviour. Division of Informatics, University of Edinburgh (UK).
- 1997 Institute for Integrated Circuits. Faculty of Electrical Engineering, Technical University of Munich (Germany).

Organization of Scientific Meetings

- First COREDEM Workshop. Universitat de Barcelona. December 2021
- Spring Seminar Series in Systems' and Computational Neuroscience.
- Second COREDEM Workshop. Sorbonne Universités, Paris, 2022.
- 20th Barcelona Systems' and Computational Neuroscience Conference. Barcelona. May 2024.

Reviewing

Journal of Experimental Psychology, Journal of Neuroscience, Journal of Neurophysiology, Neuropsychologia, IEEE Transactions on Autonomous Mental Development, Adaptive Behavior, Experimental Brain Research

Memberships of international organizations

Society for the Neural Control of Movement (NCM), American Society for Neuroscience (SfN), American Physiological Society (APS), International Society for Adaptive Behavior (AISB), Canadian Physiological Society (CPS)

Technical responsibility and activity

- 2012-14   Research Group Seminar Organizer, University Montreal, Canada.
- 2006-07   Animal & Motor Control Lab. Management, UC Berkeley, USA.

In-Service Training

2017	London SPM Course for fMRI and MRI/VBM, UCL, UK
2016	SGDP EEG Analysis Spring School 2017, KCL, UK
2015	Computational Psychiatry Course, ETH, Zurich, Switzerland
2014	Visceral Brain, Summer School in Neuro-Anatomy, Bangor, UK
2006	Animal Research Course, UC Berkeley, USA
2007	Security in Animal Research Diploma, UC Berkeley, USA
2005	Neuro-IT Neuro-Engineering Summer School, Venice, ITALY
2004	Computational Neuroscience Course, University of Edinburgh, UK
2002	VII Ramon y Cajal Summer School in Neurobiology, Carmona, SPAIN
2002	Summer Course in Project Management, Uni Complutense of Madrid, SPAIN
2001-02	Diplom. in Neuroscience, University of Edinburgh, UK
1997	University Access Diplom (DSH), Deutsche Hochschulzugangs Pruefung, Munich, GERMANY
1995	Advanced Course of Italian Language, Milan, ITALY

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Knowledge of Languages

Catalan & Spanish: Native
English, French, German & Italian: Highly proficient, both spoken and written.

REFERENCES

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