

CURRICULUM VITAE

NAME : **DIEGO JOSÉ COSMELLI SANCHEZ**
Date of birth : January 18th, 1973
Citizenship : Chilean
Marital status : married, no children
Languages : Spanish (native), English (fluent), French (fluent)
Work Address : Cognitive Neuroscience Lab, Department of Psychiatry, School of
Medicine, Pontificia Universidad Católica de Chile (PUC), Marcoleta 391,
2nd floor, Santiago, Chile
Telephone : 354 3808 – cell: (09)6158139
Fax : 354 3806
E-Mail : dcosmelli@uc.cl ; cosmellid@gmail.com
Website : www.neuro.cl

EDUCATION

INSTITUTION AND LOCATION	DEGREE	YEAR	FIELD OF STUDY
University of Chile, Santiago	Bachelor	1997	Biochemistry
University of Chile, Santiago	Biochemist	1998	
EHESS & École Polytechnique	DEA .	2000	Cognitive Sciences
École Polytechnique, Palaiseau	Ph.D.	2004	Cognitive Sciences

RESEARCH AND PROFESSIONAL EXPERIENCE

ACADEMIC EMPLOYMENT

1997 - 2000 Research Assistant, Physiology Cell Laboratory, University of Chile.
2004 - 2005 Visiting Professor, Philosophy Department, University of York, Toronto Canada.
2005 - 2006 Postdoctoral Student ECOS/CONICYT, Center for Neurobiological Studies,
Department of Psychiatry, School of Medicine, PUC.
2004 - Associate Investigator, Complex Systems Institute (ISCV), Valparaiso, Chile
2005 - Associate Investigator, Cognitive Neurosciences Laboratory, Center for
Neurobiological Studies, PUC.

RESEARCH GRANTS

2005 - 2006 ECOS/CONICYT Postdoctoral Research Fellowship “Neurodynamics of ongoing
attentional shifts: an electro-encephalographic (EEG) study of the spontaneous
exploration of pseudo-natural visual scenes “
2006 - 2008 FONDECYT Nr.3060094, Postdoctoral Research Project: “Neurobiological
Mechanism of attentional control in humans: an electroencephalographic study of
cortical dynamics during movement of visuo-spatial attention.”
2007 - 2009 PBCT Ring on Sensory Neuroscience ACT-45, Principal Investigator Cognitive
Neuroscience Pole: “Neuronal network mechanisms underlying sensory coding in
the human brain: a non-invasive study of cortical dynamics and its role in object
perception.”

EDITORIAL WORK

- 2007 Co-editor with Dr. Adrian Palacios (Valparaiso University) of the *Biological Research* journal special number "Trends and Challenges in Biomedicine: From Cerebral Processes to Mathematical Tools Design" (to appear Q1 2008)
- 2007 Co-editor with Dr. Agustin Ibañez (Diego Portales University) and Dr. Carlos Cornejo (PUC) of the *Integrative Psychological and Behavioral Sciences* journal special number "Beyond Cognitivism: Social Minds in Action" (to appear Q2 2008).
- 2007 Co-editor with Dr. Francisco Aboitiz (PUC) of the Research Signpost Book: "Dynamical Approaches to Attentional Mechanisms: Neurobiological, Clinical and Methodological Trends"

CONFERENCE ORGANIZATION AND TEACHING EXPERIENCE

- 1993 - 1996 Asistant to Organic Chemistry courses I, II & III, Faculty of Chemical and Farmaceutical Sciences, University of Chile.
- 2003 Invited Professor, II Summer School, Complex Systems Institute (ISCV), Valparaíso, Chile.
- 2005 Co-organizer (with Dr. Adrián Palacios) of the Seminar Cycle "Complex Systems and Cognitive Science", ISCV, Valparaíso, Chile, (30 students, 14 seminar-cycle)
- 01.2006 Academic Coordinator and organizer of the satellite Cognitive Science Course of the IV Summer School Complex Systems Institute (ISCV), Valparaíso, Chile, (45 students, one-week course)
- 12.2006 Academic Coordinator and co-organizer (with Dr. Adrian Palacios) of the First International Residency Week CONICYT/INSERM/SFI Workshop in "Trends and Challenges in Biomedicine: From Cerebral Processes to Mathematical Tools Design" Valparaíso, Chile, (45 students, one-week course)
- 11.2006 Academic co-organizer with Dr. Agustin Ibañez of the International Workshop "Complexity, Autonomy and Intentionality: Towards a Better Theorization and Formulation of Empirical Strategies in the Framework of Cognitive Sciences".
- 2005 - Professor of the graduate course "Introduction to Cognitive Neurosciences" (Chapter "The Problem of Consciousness in Cognitive Sciences") organized by Dr. Francisco Aboitiz and dictated by the Department of Psychiatry, PUC.
- 2007 Professor and academic co-director of the graduate course "Critical Study of Scientific Communication I & II" awarded by the VRAID (Vicerrectoria Academica de Investigacion y Doctorado of the PUC) Incentive to the Incorporation of Post-doctoral Researchers to Academy 2006-2007.

AWARDS

- 2004 "Prix de Thèse" de l'Ecole Polytechnique, Palaiseau, France.
- 2003 - 2004 Fondation pour la Recherche Médicale, France, Fellowship.
- 2000 - 2003 Boehringer Ingelheim Foundation for Research in Biomedicine, Doctoral Fellowship.
- 1998 "Mario Caiozzi" Prize to the best student graduated in Biochemist, 19991, Faculty of Chemical and Pharmaceutical Sciences, University of Chile
- 1995 "Delegation Regional Santiago" Prize, Pharmaceutical College, Chile
- 1993 "Hans Boyle" Prize, Faculty of Chemistry and Pharmaceutical Sciences, University of Chile
- 1992 "MINEDUC" Scholarship, Ministry of Education
- 1991 Academic Excellence Scholarship, University of Chile.

PEER REVIEWED PUBLICATIONS

1. Cosmelli, D. and Thompson, E. Binocular Rivalry and the Flow of Human Experience, (2007) in *PRESS*, *Consciousness and Cognition*
2. Hammame, C. Cosmelli, D and Aboitiz, F. What is so informative about information? (2007) in *PRESS*, *Brain and Behavioral Sciences*
3. Rudrauf D, Douiri A, Kovach C, Lachaux JP, Cosmelli D, Chavez M, Adam C, Renault B, Martinerie J, Le Van Quyen M. (2006) Frequency flows and the time-frequency dynamics of multivariate phase synchronization in brain signals. *NeuroImage*. May 15; 31(1): 209-227
4. Cosmelli D, David O, Lachaux JP, Martinerie J, Garnero L, Renault B and Varela FJ. (2004) Waves of Consciousness: Ongoing Cortical Patterns during Binocular Rivalry. *NeuroImage*, 23, 128-140
5. Mura CV, Cosmelli D, Munoz F, Delgado R. (2004) Orientation of Arabidopsis thaliana KAT1 channel in the plasma membrane. *J Membr Biol*. Oct 1;201(3):157-65.
6. David O, Cosmelli D, and Friston, K.J. (2004) Evaluation of different measures of functional connectivity using a neural mass model *NeuroImage*, 21, 659-673
7. David O, Cosmelli D, Hasboun D, and Garnero L. (2003) A multitrial analysis for revealing significant corticocortical networks in magnetoencephalography and electroencephalography. *NeuroImage*, 20, p186-201.
8. Munoz F, Gonzalez C, Cosmelli D, Alvarez O, Latorre R (2003) The moving parts of the KAT1 K+ channel *Biophysical Journal* 84, 73A-74A.
9. Latorre R, Olcese R, Basso C, Gonzalez C, Munoz F, Cosmelli D, Alvarez O. (2003) Molecular coupling between voltage sensor and pore opening in the Arabidopsis inward rectifier K+ channel KAT1. *J Gen Physiol*. Oct;122(4):459-69.
10. Rudrauf D, Lutz A, Cosmelli D, Lachaux JP, Le Van Quyen M. (2003) From autopoiesis to neurophenomenology: Francisco Varela's exploration of the biophysics of being. *Biol Res*. 36(1):27-65. Review.
11. Hebeisen S, Heidtmann H, Cosmelli D, Gonzalez C, Poser B, Latorre R, Alvarez O, Fahlke C. (2003) Anion Permeation in Human ClC-4 Channels. *Biophys J*. Apr; 84(4):2306-18.
12. Latorre R, Munoz F, Gonzalez C, Cosmelli D. (2003) Structure and function of potassium channels in plants: some inferences about the molecular origin of inward rectification in KAT1 channels. *Mol Membr Biol*. Jan-Mar;20(1):19-25. Review.
13. David O., Cosmelli D., Lachaux J.P., Baillet S., Garnero L. and Martinerie J. (2002) A theoretical and experimental introduction to the non-invasive study of large-scale neural phase synchronization in human beings. *International Journal of Computational Cognition*, 1(4), 53-77.
14. David O, Garnero L, Cosmelli D, Varela FJ. (2002) Estimation of neural dynamics from MEG/EEG cortical current density maps: application to the reconstruction of large-scale cortical synchrony. *IEEE Trans Biomed Eng*. Sep; 49(9):975-87.

15. Lachaux JP, Lutz A, Rudrauf D, Cosmelli D, Le Van Quyen M, Martinerie J, Varela F. (2002) Estimating the time-course of coherence between single-trial brain signals: an introduction to wavelet coherence. *Neurophysiol Clin*. Jun; 32(3):157-74. Review.
16. Latorre, R, Basso, C, Gonzalez, C, Alvarez, O, Cosmelli, D. (2001) Kat1, a K⁺ channel from *Arabidopsis thaliana*, possesses an intrinsic voltage sensor. *Biophysical Journal* 80, 436A-436A.
17. Valverde MA, Rojas P, Amigo J, Cosmelli D, Orio P, Bahamonde MI, Mann GE, Vergara C, Latorre R. (1999) Acute activation of Maxi-K channels (hSlo) by estradiol binding to the beta subunit. *Science*. Sep 17; 285(5435):1929-31.
18. Cosmelli D, Antonelli M, Allende CC, Allende JE. (1997) An inactive mutant of the alpha subunit of protein kinase CK2 that traps the regulatory CK2beta subunit. *FEBS Lett*. Jun 30; 410(2-3):391-6.

SUBMITTED MANUSCRIPTS

1. Cosmelli D, Lopez V, Lachaux J-P, Lopez-Calderon J, Renault, B, Martinerie J & Aboitiz F. Dissociating Attentional Shifting from expectation through Cortical Dynamics, submitted to *Journal of Cognitive Neuroscience*, 07.2007
2. Dossevi A, Cosmelli, D., Garnero, L, & Ammari, I Automatic reconstruction of functional networks from principal components analysis of MEG/EEG signals, ubmitted to *IEEE Trans Biomed Eng*, 03.2007.

MANUSCRIPTS IN PREPARATION

1. Cosmelli, D & Thompson, E. Brain in a Vat or Body in a World: On the Biological Requirements of Self
2. Cosmelli, D, Soto-Andrade, J & Tanter, E. Programming Paradigms and Mind Metaphors: Convergence and Cross-Fertilization in the Study of Cognition
3. Cosmelli, D, Lopez-Claderon, J, Lopez, V, Aboitiz, F & David, O. Dynamical Causal Modeling (DCM) reveals specific cortical networks during covert attentional orientation.

BOOK CHAPTERS

1. Cosmelli, D., and Thompson, E "On the Biological Requirements of Selfhood and Consciousness": Stewart, J., Gapenne, O., and Di Paolo, E. (eds.) *Enaction: Towards a New Paradigm in Cognitive Science*. MIT Press, 2007
2. Cosmelli, D., Lachaux, J-P., and Thompson, E "Neurodynamical Approaches to Consciousness": Zelazo, P., Moscovitch, M., Thompson, E. (eds.), *The Cambridge Handbook of Consciousness*. Cambridge University Press, 2007

3. Thompson, E., Lutz, A. and Cosmelli, D. "Neurophenomenology : An Introduction for Neurophilosophers" Brook, A. and Akins, K. (eds), Cognition and the Brain: The Philosophy and Neuroscience Movement, New York and Cambridge: Cambridge University Press, 2007
4. Depraz, N. and Cosmelli, D. "Empathy and Openness: Practices of Intersubjectivity at the Core of the Science of Consciousness," in E. Thompson (ed.), The Problem of Consciousness: New Essays in Phenomenological Philosophy of Mind, Canadian Journal of Philosophy Supplementary Volume, Calgary, AL: University of Calgary Press, 2004

MAIN CONGRESS ABSTRACTS

1. Cosmelli D, Lopez V, Lachaux J-P, Lopez-Calderon J, Renault, B, Martinerie J & Aboitiz F. "Dissociating Attention Shifting and Expectation through Electroencephalographic Dynamics" European Society of Cognitive Psychology XV Conference ESCOP 2007, Marseille 29th August - 1st September 2007.
2. Cosmelli, D., Lopez-Claderon, J., Zamorano, F. , Lachaux, J-P., Martinerie, J. & Aboitiz, F. Multi-frequency patterns in electroencephalographic recordings during the shift-engage-disengage cycle in spatial visual attention, Proceedings of the International Meeting Mind and Electrophysiology, Guadalajara, Jalisco, Mexico, November 6-9, 2005
3. Cosmelli, D., David, O., Lachaux, J.P., Garnero, L., Renault, B., Varela, F.J. Dynamic Cortical Patterns during Conscious Perception in Binocular Rivalry. Presented at the 14th World Congress of the International Society for Brain Electromagnetic Topography (ISBET), Santa Fe, New Mexico, November 19-23, 2003. Abstract in Brain Topography 2004, 16(3), pp 198.
4. Cosmelli, D., David, O., Lachaux, J.P., Garnero, L., Renault, B., Varela, F.J. Dynamic neural patterns revealed by MEG/EEG during visual perception. Clin. Neurophysiol. 113, Supplement 1: Abstracts of the 11th European Congress of Clinical Neurophysiology, Barcelona, Spain, August 24-28, 2002.
5. David, O., Garnero, L., Cosmelli, D., Varela, F.J. Use of surrogate data in the distributed MEG/EEG inverse problem: application to the estimation of dynamic properties of neural networks. Proceedings of the 13th International Conference on Biomagnetism (BIOMAG), pp 822-824, 2002