



Centro de Investigación  
Mente, Cerebro y  
Comportamiento

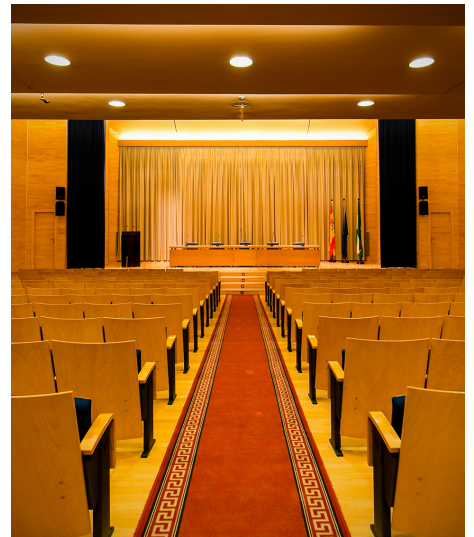
## Curso Functional Connectivity for Magnetic Resonance Imaging - Luiz Pessoa

09/03/2017

### Noticias Generales

Luiz Pessoa (<http://www.lce.umd.edu/>), director del Maryland Neuroimaging Center en EEUU, nos visitará a finales de abril-principios de mayo de este año. Como parte de la visita, impartirá un curso metodológico titulado “Functional connectivity for Magnetic Resonance Imaging”. Será los días 2, 3 y 4 de mayo de 10 a 13 hrs en el Seminario 4 del CIMCYC. Esta actividad está financiada mediante el programa Visiting Scholars del Vicerrectorado de Investigación de la UGR.

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### Descripción:

The lectures will discuss how whereas studying patterns of co-variation in brain data is essential to understanding functional circuits, significant challenges exist in attempting to do so with functional MRI data.

Lectures will cover the central ideas of functional connectivity with fMRI. They will start from basic principles and progress to intermediate and advanced topics.

<http://cimcyc.ugr.es/>

Inherent difficulties in modeling functional connectivity (including collinearity) will be discussed in detail. While no “simple” solutions exist, the lectures will provide guidance as to assessing the robustness of the results and ways to improve detecting differences in functional connectivity linked to different task conditions or brain states.

People attending the course are encouraged to read the following papers in advance to help them follow the contents:

From basics to advanced issues

Friston, K.J., Buechel, C., Fink, G.R., Morris, J., Rolls, E., and Dolan, R.J. (1997). Psychophysiological and modulatory interactions in neuroimaging. *Neuroimage* 6, 218-229.

O’Reilly, J. X., Woolrich, M. W., Behrens, T. E., Smith, S. M., & Johansen-Berg, H. (2012). Tools of the trade: psychophysiological interactions and functional connectivity. *Social cognitive and affective neuroscience*, 7(5), 604-609.

McLaren, D. G., Ries, M. L., Xu, G., & Johnson, S. C. (2012). A generalized form of context-dependent psychophysiological interactions (gPPI): a comparison to standard approaches. *Neuroimage*, 61(4), 1277-1286.

Cisler, J. M., Bush, K., & Steele, J. S. (2014). A comparison of statistical methods for detecting context-modulated functional connectivity in fMRI. *Neuroimage*, 84, 1042-1052.

Single trials

Mumford, J. A., Turner, B. O., Ashby, F. G., & Poldrack, R. A. (2012). Deconvolving BOLD activation in event-related designs for multivoxel pattern classification analyses. *Neuroimage*, 59(3), 2636-2643.

Functional connectivity and circuit function

Uddin, L. Q., Kinnison, J., Pessoa, L., & Anderson, M. L. (2014). Beyond the tripartite cognition–emotion–interoception model of the human insular cortex. *Journal of Cognitive Neuroscience*, 26(1), 16-27.

Jaspers, E., Balsters, J. H., Kassraian Fard, P., Mantini, D., & Wenderoth, N. (2017). Corticostriatal connectivity fingerprints: Probability maps based on resting-state functional connectivity. *Human Brain Mapping*, 1478-1491.

Pauli, W. M., O’Reilly, R. C., Yarkoni, T., & Wager, T. D. (2016). Regional specialization

within the human striatum for diverse psychological functions. Proceedings of the National Academy of Sciences, 113(7), 1907-1912.

Dynamic and intersubject

Hutchison, R. M., Womelsdorf, T., Allen, E. A., Bandettini, P. A., Calhoun, V. D., Corbetta, M., ... & Handwerker, D. A. (2013). Dynamic functional connectivity: promise, issues, and interpretations. *Neuroimage*, 80, 360-378.

Simony, E., Honey, C. J., Chen, J., Lositsky, O., Yeshurun, Y., Wiesel, A., & Hasson, U. (2016). Dynamic reconfiguration of the default mode network during narrative comprehension. *Nature communications*, 7: 12141.

Las personas interesadas en participar deben apuntarse en el siguiente link:

LINK:

[https://drive.google.com/open?id=1WUSbKM9gSsV5A4qDOSrT8fWdLpBSkSe5eccH\\_yDk688](https://drive.google.com/open?id=1WUSbKM9gSsV5A4qDOSrT8fWdLpBSkSe5eccH_yDk688)  
->

[https://drive.google.com/open?id=1WUSbKM9gSsV5A4qDOSrT8fWdLpBSkSe5eccH\\_yDk688](https://drive.google.com/open?id=1WUSbKM9gSsV5A4qDOSrT8fWdLpBSkSe5eccH_yDk688)

El número de asistentes es limitado, y generalmente las solicitudes superan la disponibilidad de espacio.

Si tenéis alguna duda, escribid a María Ruz, [mrucz@ugr.es](mailto:mrucz@ugr.es)