

# Christophe Lalanne

Biostatistics and Psychometrics consulting

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**Short Bio:** French citizen; Born June 6, 1974; Living together, with Pierre (8 yrs. old).

## Academic Positions

Since 2010

**Psychometrician/Biostatistician**

*Département de la Recherche Clinique et du Développement, AP-HP, and PSIGIAM group (INSERM U669) Paris, France.*

Construction and validation of *Health-related quality of life* instruments in infectious diseases (HIV, VHC); development and assessment of innovative *eHealth solutions*; collaboration with INSERM U669 on *data mining and modelling* strategies in clinical research. Teaching activities: statistics, psychometrics, health measurement.

2009–2010

(1 yr.)

**Biostatistician**

*CEA/DSV/I<sup>2</sup>BM/Neurospin, Saclay, France.*

Multivariate analysis of clinical, neuroimaging and genetic data for the european IMAGEN consortium, aiming to identify reliable biomarkers/endophenotypes related to substance use and personality disorder in children.

2008–2009

(1 yr.)

**Psychometrician**

*Département de la Recherche Clinique, AP-HP, and PSIGIAM group (INSERM U669) Paris, France.*

Development and validation of an Health-related quality of life instrument specific for patients living with AIDS; analysis of clinical samples of highly-gifted children in relation to depression, and children with learning disabilities or West syndrom.

2006–2008

(2 yrs.)

**Psychometrician**

*Centre international d'études pédagogiques, Sèvres, France.*

Field-trial and analysis for educational testing in French; Coordination of international surveys.

2004–2006

(2 yrs.)

**Lecturer**

*IUT, Université René Descartes (Paris 5), France.*

Courses in Cognitive Science and Artificial Intelligence.

2001–2004

(3 yrs.)

**Research Engineer**

*France Télécom R&D, Issy-les-Moulineaux, France.*

Experimental design for multimodal HCI development (visuo-haptic devices).

*Teaching activities* between 2002 and 2009, including courses in Applied statistics (Master level, Université Pierre & Marie Curie, Université René Diderot, Université Nanterre, CNRS), and Computer science (1st year engineering school, ESTP), between 100 and 300h/yr.

*Recent courses* include: *Introduction to health measurement* (4 × 1 hr.), introductory sessions on epidemiology, biostatistics, and psychometrics; *Introduction to R for biomedical research* (11 × 2 hr.), overview of statistical analysis with R for explanatory and predictive modelling.

## Education

- 2006 **PhD** (Cognitive Science).  
**Université Pierre & Marie Curie (Paris 6)**, Paris, France.  
*'Formes et mouvements: de la perception à l'action'* (Dir. J. Lorenceau).
- 2000 **DEA** (Mathematics, Applied Computer Science).  
**Université René Descartes (Paris 5)**, Paris, France.
- 1999 **DEA** (Cognitive Science).  
**Université Pierre & Marie Curie (Paris 6)**, Paris, France.
- 1998 **Maîtrise** (Experimental Psychology and Neurosciences).  
**Université Pierre & Marie Curie (Paris 6)**, Paris, France.
- 2006–2009 **Formal training** (Statistics).  
**Including**, *Applied Statistics* (CNAM, Paris), *Bioinformatics* (Université d'Orsay, Paris Sud), *Epidemiology and Biostatistics* (Université Pierre & Marie Curie, Orsay).

## Publications

### Peer-reviewed articles

#### Working papers

1. Berthoz, S., **Lalanne, C.**, Crane, L., and Hill, E.H. Investigating emotional impairments in adults with autism spectrum disorders and the broader autism phenotype.
2. Herrmann, S., McKinnon, E., Hyland, N., **Lalanne, C.**, Mallal, S., Nolan, D., Chassany, O., and Duračinský, M. Disease-related stigma and physical symptoms have a pervasive and prevailing impact on health-related quality of life in Australians with HIV infection.
3. **Lalanne, C.**, Falissard, B., Golse, B., and Vaivre-Douret, L. Refining dyspraxia subtyping with multivariate statistical methods. under revision for *BMC Medical Research Methodology*

#### Published papers

4. Duračinský, M., **Lalanne, C.**, Le Coeur, S., Herrmann, S., Berzins, B., Armstrong, A.R., Lau, J.T.F., Fournier, I., Sow, S., and Chassany, O. Psychometric validation of the PROQOL-HIV questionnaire, a new health-related quality of life instrument specific to HIV disease. *Journal of Acquired Immune Deficiency Syndromes*, 59(5), 506–515.
5. Vaivre-Douret, L., **Lalanne, C.**, Cabrol, D., Ingster-Moati, I., Falissard, B., and Golse B. (2011). Identification de critères diagnostiques des sous-types de Troubles de l'Acquisition de la Coordination (TAC) ou dyspraxie développementale. *Neuropsychiatrie de l'Enfance et de l'Adolescence*, 59(8), 443–453.
6. Vaivre-Douret, L., **Lalanne, C.**, Mouchel, B., Ingster-Moati, I., Golse, B. and Falissard, B. (2011). Subtyping of developmental dyspraxia (DCD): Research on nature and etiology. *Developmental Neuropsychology*, 36(5), 614–643.
7. Vaivre-Douret, L., **Lalanne, C.**, Charlemaine, C., Cabrol, D., Goullou, K., Sebbane, O., Golse, B., and Falissard, B. (2010). Relationship between growth status at birth and motor and cognitive development in a French sample of gifted children. *European Review of Applied Psychology*, 60, 1–9.
8. Lorenceau, J. and **Lalanne, C.** (2008). Superposition catastrophe and form-motion binding. *Journal of Vision*, 8(8), 1–14.
9. **Lalanne, C.** and Lorenceau, J. (2006). Directional shifts in the barber pole 'illusion': Effects of spatial frequency, spatial adaptation and lateral masking. *Visual Neuroscience*, 23, 1–11.

10. **Lalanne, C.** and Lorenceau, J. (2004). Cross-modal integration for perception and action. *Journal of Physiology (Paris)*, 98, 265–279.
11. **Lalanne, C.**, Zamani, M., and Lorenceau, J. (2004). Effects of perceived visual coherence on visuo-manual coordination. In M. Heller & S. Ballesteros (Eds.), *Touch, Blindness and Neurosciences*, pp. 187–197. Madrid, Spain: UNED Press.

### **Selected list of communications**

1. Vaivre-Douret, L., **Lalanne, C.**, Cabrol, D., Golse, B., and Falissard, B. (2012). Importance of multidimensional assessment to refine subtypes of developmental coordination disorder. *20th European Congress of Psychiatry*. Prague, Czech Republic.
2. **Lalanne, C.**, Armstrong, A.R., Herrmann, S., Chassany, O., and Duračinský, M. (2011). How does health-related quality of life relate to symptoms experience in HIV patients treated with highly-active antiretroviral therapy? *International Society for Pharmacoeconomics and Outcomes Research, 14th Annual European Congress* (Madrid, Spain).
3. **Lalanne, C.**, Duračinský, M., Armstrong, A. R., and Chassany, O. (2010). IRT-based Assessment of Differential Item Functioning in HRQL studies. *17th Annual Conference of the International Society for Quality of Life Research* (London, UK).
4. **Lalanne, C.**, Duchesnay, E., Frouin, V., Thyreau, B., Tenenhaus, A., Thirion, B., and Poline, J.-B. (2010). Assessing the performance of PLS regression and CCA with high-dimensional two-block data structures. *Human Brain Mapping* (Barcelona, Spain).
5. **Lalanne, C.**, Duračinský, M., Acquadro, C., and Chassany, O. (2009). Descriptive and explanatory IRT modeling of a new Quality of Life questionnaire specific for HIV patients. *16th International Meeting of the Psychometric Society* (Cambridge, England).
6. **Lalanne, C.**, Duračinský, M., Vaivre-Douret, L., and Chassany, O. (2009). Psychometrics in R : Rasch Model and beyond. *UseR2009* (Rennes, France).
7. Esposito-Farèse, M. and **Lalanne, C.** (2008). Applying the Generalized Linear Mixed Model in detecting DIF. *III European Congress of Methodology* (Oviedo, Espagne).
8. Lorenceau, J. and **Lalanne, C.** (2005). Adaptive strategies for perception and action. *Visual Science Society* (Sarasota, Floride, USA).
9. Lorenceau, J. and **Lalanne, C.** (2004). Visual form-motion binding: Comparable biases in perceptual and sensorimotor tasks. *European Conference on Visual Perception* (Budapest, Hungary).
10. **Lalanne, C.** and Lorenceau, J. (2003). Form-motion integration for perception and action. *European Conference on Visual Perception* (Paris, France).

### **Technical Skills**

Working on Mac OS X with common *programming and scientific languages* (C, Python, Octave, sed/awk), *database query systems* (SQL, PostgreSQL, Redis, MongoDB), *statistical software* (R, Stata, Weka, Mx, Mplus, Orange, JAGS, JMP, GGobi, xlipstat), *typesetting systems* (T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X, ConT<sub>E</sub>Xt, XML), *literate programming languages* (Noweb, Sweave, knitr), and *version control systems* (Git, SVN, RCS), with GNU Emacs.

### **Miscellanies**

Sports (Yoseikan Budo, Boxing); writings of applied statistical textbooks; Stack Exchange QAs.