

Ludovic Bellon

36 years old (sept. 1973)
married, 2 children

Contact

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Researcher

speciality : *Non Linear Physics*

Professional experiences : Research

More than 20 publications in international peer reviewed scientific journals, congress acts, etc...

- Since 2003 **Researcher in the CNRS (National Center for Scientific Research)**. Main topic: conception of an Atomic Force Microscope (AFM) for local dielectric measurements, *Laboratoire de Physique - École Normale Supérieure de Lyon*.
- 2001-2003 **Post-doc**: Control of out of equilibrium systems, in collaboration with R. Hernandez. *Advanced Non Linear Physics Laboratory – Universidad de Chile*.
- 1998-2001 **PhD Thesis**: Aging of glassy systems and fluctuation-dissipation ratio, under the direction of S. Ciliberto. *Laboratoire de Physique – École Normale Supérieure de Lyon*.
- 1997 **National Service**: Adaptive control of mechanical vibrations : experimental validation of associated concepts aiming at industrial applications. *Laboratoire de Mécanique des Solides – École Centrale Lyon*.
- 1996 Training period (4 months) : convective instabilities. *Département Physique des Matériaux – Lyon I*.
- 1995 Training period (6 months) : fracture in disordered materials. *Laboratoire de Physique – ENS Lyon*.
- 1994 Training period (2 months) : printer's instability. *Laboratoire de Physique Statistique – ENS*.

Professional experiences : Teaching

- 2009 **Invited Professor**: Introduction to AFM (20h, Master) – *ECNU, Shanghai, China*
- Since 2008 Lab training courses (Master), *ENS Lyon*
- 2005-2008 **PhD supervisor**: Bruit thermique et dissipation d'un microlevier, P. Paolino, *ENS Lyon*
- 2002 **Associate Professor** : Experimental projects (Master), *Universidad de Chile*.
- 1999-2001 **Electronics** : training of students of the ENS Lyon to the highly competitive examination of the *Agrégation de Sciences Physiques* which prepare high-school professors.

Studies

- Since 1996 **Permanent Formation**: specialized course in Physics, local Probe Microscopy, Labview programming...
- 1995-1996 **DEA** Physique Statistique et Phénomènes non linéaires (mention **B**) *École Normale Supérieure de Lyon*
- 1993-1995 Studies at the École Normale Supérieure de Paris. Magistère de Physique 1st et 2nd year : **Licence** de Physique (mention B), **Maîtrise** de Physique (mention TB), 6 months training period in research.
- 1993 Competitive examination for ingeenering and sciences schools: success in the 3 **Écoles Normales Supérieures** (Paris, Lyon, Cachan) and in the **École Polytechnique**.
- 1991-1993 Studies in the Lycée du Parc, Lyon.

Technical skills

- Informatics**: Knowlegde of main operating systems (DOS, Windows, Mac, Unix, Linux), programing in Basic, Pascal, Fortran, C, C++, **Labview**, knowledge of data processing software (**MatLab**, Simulink...), knowledge of **LaTeX**, conception of pages in html, javascript, php.
- Mechanics**: conception of complex apparatus (a complete AFM for instance), machining of average difficulty parts.
- Electronics**: conception of precision measurement tools (nV resolution), wiring.
- Optics**: conception, manipulation of precision interferometers (10^{-14} m resolution). Knowledge of holography.
- Languages** : **French**: native. **English**: fluent (3 stays of 1 month each in the USA in 1989-1990, daily professional use). **Spanish**: fluent (2 years living in Chile). German: bases (1 month in Berlin in 1990).

L. Bellon - List of publications

- [1] A. Garcimartin, A. Guarino, L. Bellon, and S. Ciliberto. Statistical properties of fracture precursors. *Physical Review Letters*, **79**, 3202–3205, 1997.
- [2] L. Bellon, L. Fourtune, V. Ter Minassian, and M. Rabaud. Wave-number selection and parity-breaking bifurcation in directional viscous fingering. *Physical Review E*, **58**, 565–574, 1998.
- [3] L. Bellon, S. Ciliberto, and C. Laroche. Memory in the aging of a polymer glass. *Europhysics Letters*, **51**, 551–556, 2000.
- [4] L. Bellon, S. Ciliberto, and C. Laroche. Violation of the fluctuation-dissipation relation during the formation of a colloidal glass. *Europhysics Letters*, **53**, 511–517, 2001.
- [5] M. N. Ichchou, B. Jemai, L. Bellon, and L. Jezequel. Active rubber mounts by means of piezoelectric actuators, experimental work. *Smart Materials and Structures*, **10**, 1095–1099, 2001.
- [6] M. Vial, L. Bellon, and R. Hernandez. Flat plate wake modulation and wave propagation effects. In *Proceedings of the Décimo Congreso Chileno de Ingeniería Mecánica - COCIM 2002 - Santiago de Chile, oct. 15–18th*, 2002.
- [7] R. Hernandez and L. Bellon. Large scale vortex flow. In *Proceedings of the Décimo Congreso Chileno de Ingeniería Mecánica - COCIM 2002 - Santiago de Chile, oct. 15–18th*, 2002.
- [8] L. Bellon, L. Buisson, S. Ciliberto, and F. Vittoz. Zero applied stress rheometer. *Review of Scientific Instruments*, **73**, 3286–3290, 2002.
- [9] L. Bellon and S. Ciliberto. Experimental study of the fluctuation dissipation relation during an aging process. *Physica D-Nonlinear Phenomena*, **168**, 325–335, 2002.
- [10] L. Bellon, S. Ciliberto, H. Boubaker, and L. Guyon. Differential interferometry with a complex contrast. *Optics Communications*, **207**, 49–56, 2002.
- [11] L. Bellon, S. Ciliberto, and C. Laroche. Advanced memory effects in the aging of a polymer glass. *European Physical Journal B*, **25**, 223–231, 2002.
- [12] L. Buisson, L. Bellon, and S. Ciliberto. Intermittency in ageing. *Journal of Physics: Condensed Matter*, **15**, S1163–S1179, 2003.
- [13] L. Buisson, M. Ciccotti, L. Bellon, and S. Ciliberto. Electrical noise properties in aging materials. In D. Popovic, M. B. Weissman, and Z. A. Racz, editors, *Fluctuations and Noise in Materials*, Spie Proceedings Series, pages 150–164, 2004. Also Cond-mat/0403294.
- [14] R. H. Hernandez, M. Vial, L. Bellon, and C. Baudet. Resonant behavior of the wake of a flat plate: Hot wire and sound scattering measurements. In O. Descalzi, J. Martinez, and S. Rica, editors, *Instabilities and Nonequilibrium Structures IX*, volume 9 of *Nonlinear Phenomena and Complex Systems*, pages 195–205, 2004.
- [15] M. Vial, L. Bellon, and R. H. Hernandez. Mechanical forcing of the wake of a flat plate. *Experiments in Fluids*, **37**, 168–176, 2004.
- [16] L. Bellon, L. Buisson, M. Ciccotti, S. Ciliberto, and F. Douarche. Thermal noise properties of two aging materials. In *Lecture notes in Physics*, volume 688, pages 23–52. Springer-Verlag Berlin, 2006. Also cond-mat/0501324.
- [17] L. Bellon, M. Gibert, and R. Hernandez. Coupling between aging and convective motion in a colloidal glass of Laponite. *European Physical Journal B*, **55**, 101–107, 2007.
- [18] P. Paolino, L. Bellon. Single beam interferometric angle measurement. *Optics Communication*, **280**, 1–9, 2007.
- [19] L. Bellon. Thermal noise of microcantilevers in viscous fluids. *Journal of Applied Physics*, **104**, 104906, 2008.
- [20] P. Paolino, L. Bellon. Frequency dependence of viscous and viscoelastic dissipation in coated microcantilevers from noise measurement. *Nanotechnology*, **20**, 405705, 2009.
- [21] P. Paolino, B. Tiribilli, L. Bellon. Direct measurement of spatial modes of a micro-cantilever from thermal noise. *Journal of Applied Physics*, **106**, 094313, 2009.