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I am a postdoc at [LPTMC](#) , in the group of [O. Benichou](#) and [R. Voituriez](#) . I am working on transport and reactivity in confined media.

Here is my publication list, with pdf versions of the articles.

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Articles dans des revues avec comité de lecture

[A9] [Large-scale nonlinear effects of fluctuations in relativistic gravitation](#) .

C. Chevalier, F. Debbasch and Y. Ollivier. Accepted for publication in Nonlinear Analysis Series A: Theory, Methods and Applications.

[A8] [Stochastic models of thermodiffusion](#).

C. Chevalier, F. Debbasch and J.P. Rivet. Accepted for publication in Mod. Phys. Lett. B.

[A7] [Thermal statistical ensembles of classical extreme black holes](#).

C. Chevalier, F. Debbasch. Physica A, 388, 628-638 (2009).

[A6] [Relativistic diffusions: a unifying approach](#).

C. Chevalier and F. Debbasch. J. Math. Phys., 49, 043303 (2008).

[A5] [A unifying approach to relativistic diffusions and H-theorems](#).

C. Chevalier and F. Debbasch. Mod. Phys. Lett. B, 22(6):383 - 392 (2008).

[A4] [Is Brownian motion sensitive to geometry fluctuations?](#)

C. Chevalier and F. Debbasch. J. Stat. Phys., 131(4): 717-731 (2008).

[A3] [Multi-scale diffusion on an interface.](#)

C. Chevalier and F. Debbasch. Eur. Phys. Lett., 77:20005-20009 (2007).

[A2] [Fluctuation-Dissipation Theorems in an Expanding Universe.](#)

C. Chevalier and F. Debbasch. J. Math. Phys., 48:023304 (2007).

[A1] [Thermal Statistical Ensembles of Black Holes.](#)

C. Chevalier, M.D. Bustamante and F. Debbasch. Physica A, 376:293-307 (2007).

Articles soumis

- [Multiscale cosmological dynamics.](#)

C. Chevalier, F. Debbasch and Y. Ollivier. Submitted to Physica A.

- Geometry-controlled kinetics.

O. Bénichou, C. Chevalier, B. Meyer and R. Voituriez. Submitted to Nature.

Actes de congrès avec comité de lecture

[B10] [Is matter an emergent property of space-time?](#)

C. Chevalier and F. Debbasch.

Proceedings of the Seventh International Conference on Complex Systems, Oct. 28- Nov.2

2007, Editors Ali Minai, Dan Braha, Yaneer Bar-Yam, 2008

(<http://necsi.edu/events/iccs7/proceedings.html>),

<http://necsi.org/events/iccs7/papers/75ChevalierPhysical.pdf>).

[B9] [Multi-scale diffusions on biological interfaces.](#)

C. Chevalier and F. Debbasch. Proceedings of the Seventh International Conference on Complex Systems, Oct. 28- Nov.2 2007, Editors Ali Minai, Dan Braha, Yaneer Bar-Yam, 2008 (<http://necsi.edu/events/iccs7/proceedings.html>, <http://necsi.org/events/iccs7/papers/76DebbaschPhysical.pdf>).

[B8] [A review of finite speed transport models.](#)

C. Chevalier, F. Debbasch and J.P. Rivet. Proceedings of the Second International Forum on Heat Transfer (IFHT08), Sept. 17-19, Tokyo, Japan, Heat Transfer Society of Japan, 2008.

[B7] [A stochastic approach to thermodiffusion.](#)

C. Chevalier, F. Debbasch and J.P. Rivet. Proceedings of the Second International Forum on Heat Transfer (IFHT08), Sept. 17-19, Tokyo, Japan, Heat Transfer Society of Japan, 2008.

[B6] [Diffusion Processes on Manifolds.](#)

C. Chevalier and F. Debbasch. Accepted for publication in 'Markov Processes and Related Topics: A Festschrift for Thomas G. Kurtz'. Lecture Notes and Monographs Series, Institute of Mathematical Statistics.

[B5] [Brownian motion and entropy growth on irregular surfaces.](#)

C. Chevalier and F. Debbasch. International Journal of Numerical Analysis and Modeling, Vol. 5, Special Issue on Modeling, Analysis and Simulations of Multiscale Nonlinear Systems, M. Peszynska, R. Showalter, A. Spagnuolo and N. Walkington: guest editors, pp. 36-46 (2008).

[B4] [Relativistic Stochastic Processes: a review.](#)

F. Debbasch and C. Chevalier. Proceedings of 'Medyfinol 2006, Nonequilibrium Statistical Mechanics and Nonlinear Physics, XV Conference on Nonequilibrium Statistical Mechanics and Nonlinear Physics, Mar del Plata, Argentina, Dec. 4-8 2006'. O. Descalzi, O.A. Rosso and H.A. Larrondo, editors. A.I.P. Conference Proceedings, Vol. 913 (2007).

[B3] [Relativistic transport and fluctuation-dissipation theorems](#)

C. Chevalier and F. Debbasch. In '17th International Symposium on Transport Phenomena, Toyama, 2006', M. Ishizuka, editor.

[B2] [Mean Field Theory and General Relativistic Black Holes.](#)

C. Chevalier and F. Debbasch. In F. Combes and R. Robert, editors: Statistical Mechanics of non-extensive systems, Paris 2005. Cr. Acad. Sc. (2006).

[B1] [Mean Field Theory and Astrophysical Black Holes.](#)

C. Chevalier and F. Debbasch. In J.M. Alimi and A. Fuzfa, editors: Einstein Symposium, Unesco, Paris 2005. AIP (2006).