CV - Lydéric Bocquet

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Present position:
- Directeur de Recherche at CNRS and joint professor at ENS
- member of the french Academy of Science

Research unique identifiers:
- *Researcher id:* http://www.researcherid.com/rid/A-2241-2012
- *Google Scholar id:* http://scholar.google.fr/citations?user=_TOxI8oAAAAJ&hl=fr
- *Orcid id:* orcid.org/0000-0003-3577-5335

Academic record and education

- 2022-2023 Professor at Collège de France, Chair of Innovation
- 2022- Member of the french Academy of Science
- 2014- Directeur de Recherche at CNRS and joint Professor at ENS
- 2002-2014, Full Professor (PRCE) at Université Lyon 1 and Institut Universitaire de France (2005-2010)
- 1995-2002, Chargé de recherche au CNRS
- 2001, Habilitation, Université de Lyon
- 1994, Phd in statistical physics, Lyon (advisor: JP Hansen)
- 1989-1993: studies at Ecole Normale Supérieure (Paris)

Research activities in a few lines

I am a scientist, working in physics. One of my main thrust over the last 10 years is *nanofluidics, the science of molecular flows*. This world of the infinitely small in fluidics is the frontier where the continuum of fluid mechanics meets the atomic nature of matter, and even its quantum nature. There, we observe frictionless flows, emerging quantum effects, and memory effects, which now make it possible to dream of ionic computers.

Recently, we unveiled and rationalized quantum friction effects, explaining for the first time the odd and nearly frictionless flows in carbon nanochannels. This opens the possibility to design a *quantum engineering of water flows*, as a new asset for future water technologies. A second objective is to design and fabricate artificial "*nanoscale ionic machines*" based on emerging properties and capable to reproduce the amazing functionalities of biological systems. Such artificial nanofluidic building blocks mimic their neuronal counterparts and allow designing simple neuromorphic computation architectures based on ions rather than electrons, showing elementary 'learning' functionality using the nanofluidic circuitry.

Nanofluidics is also a field where there is a short path between fundamental science and disruptive innovation, because the sometimes 'exotic' nanofluidic properties offer unexpected solutions to develop new technologies relevant to the environmental transition, notably for desalination, water remediation, or blue energy - notably osmotic energy. Our goal is to *"make it work"*. This fundamental research led to the creation of three start-up companies on these topics, "Sweetch-Energy", "Hummink" and "Altr". A fourth startup, "Ilion", on a new and patented (nanofluidic based) technology for desalination has been founded in january 2025.

I have also a strong interest in the physics of everyday life, with contributions on stone-skipping, cooking, splashes, ironing, teapot effect, ski waxing, etc.

Publications, conferences, …

- *200+ publications* in international reviews [incl. 8 Nature, 2 Science, 18 Nature daughter journals, etc.; *H-index* : 88; 30k+ citations (Goggle Scholar)]
- 11 patents, 5 licensed
- 120+ invited conferences (mostly international)
- 120+ seminars (Cambridge, Harvard, MIT, NYU, …)
- author of two first grade books, on mechanics and thermodynamics (Dunod éditeur)

Selected publications

Full list, see: https://www.phys.ens.fr/~lbocquet/publication.html

- « *Momentum tunneling between nanoscale liquid flows* », Baptiste Coquinot, Anna T. Bui, Damien Toquer, Angelos Michaelides, Nikita Kavokine, Stephen J. Cox and Lydéric Bocquet, **Nature Nanotechnology** (2025) ; https://doi.org/10.17863/CAM.113204
- « *Hydroelectric energy conversion of waste flows through hydro-electronic drag* », Baptiste Coquinot, Lydéric Bocquet and Nikita Kavokine, **Proceedings of the National Academy of Science** (PNAS), USA, **121**, e2411613121 (2024)
- "*Waste heat recovery using thermally responsive ionic liquids through TiO2 nanopore and macroscopic membranes*", M. Pascual, N. Chapuis, S. Abdelghani-Idrissi, M.-C. Jullien,A. Siria, and L. Bocquet, **Energy & Environmental Science 16**, 4539 - 4548 (2023).
- « *Long-term memory and synapse-like dynamics in two-dimensional nanochannels* », P. Robin, T. Emmerich, A. Ismail, A. Niguès, Y. You, G.-H. Nam, A. Keerthi, A. Siria, A.K. Geim, B. Radha, L. Bocquet, **Science 379**, 161-167 (2023).
- « *Fluctuation-induced quantum friction in nanoscale water flows* », N. Kavokine, M.-L. Bocquet and L. Bocquet, **Nature** (2022).
- « *Modeling of emergent memory and voltage spiking in ionic transport through angström-scale slits* », P. Robin, N. Kavokine, and L. Bocquet, **Science 373**, 687–691 (2021).
- « *Nanorheology of interfacial water during ice gliding* », L. Canale, J. Comtet, A. Nigues, C. Cohen, C. Clanet, A. Siria and L. Bocquet, **Physical Review X 9**, 041025 (2019).
- « *Massive radius-dependent flow slippage in single carbon nanotubes* », E. Secchi, S. Marbach, A. Niguès, D. Stein, A. Siria and L. Bocquet, **Nature 537** 210 (2016)
- « *Giant osmotic energy conversion measured in a single transmembrane boron-nitride nanotube* », A. Siria, P. Poncharal, A.-L. Biance, R. Fulcrand, X. Blase, S. Purcell, and L. Bocquet, **Nature 494** 455 (2013)
- « *The revealed secrets of stone skipping* », C. Clanet, F. Hersen, L. Bocquet **Nature 427** 29 (2004)

Awards

- Innovation Medal of CNRS (2024)
- 2024 finalist of the European inventor of the year, European Patent Office
- Elected member of the french Academy of Science
- Chair of Professor at Collège de France, Chair of Innovation (2022-2023)
- *ERC Synergy Grant* award of the European Research Council (2022) – project *n-AQUA* -
- *ERC Avdanced Grant* award of the European Research Council (2018) – project *Shadoks* -
- *ERC Avdanced Grant* award of the European Research Council (2010) – project *Micromégas* -
- 2022 Gentner-Kastler prize, jointly awarded by the german Deutsche Physikalische Gesellschaft and the french Société Française de Physique
- Hinshelwood lecture, Oxford University (2018)
- Silver Medal of the CNRS (2017)
- Maurice Couette Award of the Groupe français de Rhéologie (2015)
- Ancell condensed matter prize de la Société Française de Physique (2011)
- Scientific prize of the french Academy of Sciences, Jean Protas (2008)
- International award, *Friedrich Wilhelm Bessel* of the Alexander von Humboldt foundation (2007)
- 'palmes académiques' award (national award for accomplishments towards education, 2007)
- awarded member of the Institut Universitaire de France (2005)
- Young Researcher award of the city of Lyon (2003)
- NATO awarded grant (1996)
- Invited professor: Frei Universität Berlin (1 year over 2019, 2021, 2022, 2023); MIT, USA, 1 year (2013-2014) ; Technical University Munich, Allemagne, 1 year (2007-2008); University of Barcelona, Spain 2 months (2002, 2003); UPENN, USA, 7 months (2000) ; Imperial College, UK 7 months (1996-1997)

Industrial relationships, transfer of technology and innovation

For more than 15 years, I served as scientific consultant for various industrial groups, Rhodia, Blue Star Silicon, Saint Gobain, Plastic Omnium and various smaller size companies.

Innovation and business creation :

co-founder of several startups, and have actively followed their development since their creation. It involves scientific exchanges on the technologies implemented by the startup, analysis of their results, etc., but also support for their fund-raising activities.

- **co-founder of the start-up, Sweetch-Energy,** around osmotic energy launched in 2015. The company has around 60 employees in 2025. An industrial pilot has been installed in 2024 on the Rhône in collaboration with Compagnie Nationale du Rhône and EDF Hydro.
- **co-founder of a start-up, *Hummink***, around nanoprinting by AFM tuning fork in 2020. The company has ~20 employees in 2025. The startup has designed a "Nazca" machine for micro- and nanoscale ink deposition. It is aiming for industrial cleanroom installation (negotiations underway with microelectronics giants).
- **co-founder of a start-up, *Altr***, in collaboration with US partners, around alcohol separation, seeded by a patent and membranes developed in the laboratory, then scaled up by Altr.
- **co-founder of a start-up, *Ilion***, to develop a new desalination technology, based on several (nanaofluidics) patents developed in the laboratory. The company was created at the end of 2024, and currently has 3 employees. It aims to develop an industrial pilot within 3 years.

Institutional responsabilities

2023 -, member of the scientific council of *Terra Academia* (*https://terra-academia.org*)
2018 - 2023, member of the scientific council of CNRS
2016-2021, director of the *Institut Pierre Gilles de Gennes* for micro & nanofluidics, Paris (www.institut-pgg.fr)
(2016-2018 deputy director)
2015 - 2019 director of the ENS Master Studies in Fundamental Physics (ICFP), ~150 students.
2006 - 2013, head of the "*Liquids at interfaces*" group in the LPMCN (~ 45 people), Univ. Lyon 1
2010 - 2012, deputy director of the condensed matter physics lab (LPMCN, 100 people), Univ. Lyon 1
2010 – 2014, member of the scientific committee of the *Institut de Physique* of the CNRS

Commissions of trust

2016 - 2023, member of the ERC PE03 panel
2011 - 2021, member of the editorial board of *Physical Review X* (American Physical Society)
2015 – 2017, member of the editorial board of *Journal of Chemical Physics* (AIP)
2008 – 2012, member of the CNRS national committee (CoNRS) for condensed matter (sec. 05)

Invitations to international conferences

Selection of recent invited conferences and colloquium

- Plenary lecture at the national congress of the Société Française de Physique, 2025
- Colloquium @ MIT, CENT, Boston, 2023
- microTAS, Hangzou, (plenary talk), 2022
- American Physical Society, March Meeting, 2021
- International Soft Matter Conference, Edinburgh (plenary talk) 2019
- 12th European Fluid Mechanics Conference, Vienna, (plenary talk) 2018
- Edwards Symposium: Challenges and Opportunities in Soft Matter, Cambridge, 2017
- 26th IUPAP International Conference on Statistical Physics, *STATPHYS* 26, 2016
- Italian National Conference on Condensed Matter Physics *FisMat2015,* Palerme, 2017
- AERC International Conference, Nantes (plenary talk), 2015
- 9th Liquid Matter conference, Lisbon (plenary talk), 2014

List of publications

https://www.phys.ens.fr/~lbocquet/publication.html

Book
Open book "*La mécanique moléculaire des fluides : un champ d'innovation pour l'eau et l'énergie*",
Leçon inaugurale prononcée au Collège de France le jeudi 2 février 2023, click here

Phd manuscripts from the team (after 2018): click here

Scientific articles 2013-2024

http://www.researcherid.com/rid/A-2241-2012
https://scholar.google.fr/citations?user=_TOxI8oAAAAJ&hl=fr

Under review :

« *Resonant osmotic diodes for voltage-induced water filtration across composite membranes* »,
S. Abdelghani-Idrissi, L. Ries, J. Perez-Carvajal, A. Siria, Lydéric Bocquet, under review at Nature Materials (2025)

2025

[208] « *Disentangling conduction pathways at the ionic-electronic interface in EMI-TFSI covered graphene transistors* », Mathieu Lizée, Ali Esfandiar, Eva Panoni, Artem Mischenko, Pierre-Louis Taberna, Patrice Simon, Lydéric Bocquet, accepted for publication in **Proceedings of the National Academy of Science** (PNAS), USA (2025)

[208] « *Boosting large scale capacitive harvesting of osmotic power by dynamical matching of ion exchange kinetics* », Nicolas Chapuis, Lydéric Bocquet,
Sustainable Energy & Fuels (2025) (in press)

[207] « *Ionic association and Wien effect in 2D confined electrolytes* », D. Toquer, L. Bocquet, P. Robin,
J. Chem. Phys. 162, 064703 (2025)

[206] « *Liquid flow tunneling mediated by a solid's electronic excitations* »,
Baptiste Coquinot, Anna T. Bui, Damien Toquer, Angelos Michaelides, Nikita Kavokine, Stephen J. Cox and Lydéric Bocquet,
Nature Nanotechnology (2025) ; https://doi.org/10.17863/CAM.113204

2024

[205] « *Hydroelectric energy conversion of waste flows through hydro-electronic drag* », Baptiste Coquinot, Lydéric Bocquet and Nikita Kavokine,
Proceedings of the National Academy of Science (PNAS), USA, **121**, e2411613121 (2024)

[204] "*Anomalous friction of supercooled glycerol on mica*",
Mathieu Lizée, Baptiste Coquinot, Guilhem Mariette, Alessandro Siria, Lydéric Bocquet,
Nature Communications 15, 6129 (2024)

[203] « *Long range signature of liquid's inertia in nanoscale drainage flows* »,
N Bigan, M Lizée, M Pascual, A Niguès, L Bocquet, A Siria
Soft Matter 20 (44), 8804-8811 (2024)

[202] "*Collective modes and quantum effects in two-dimensional nanofluidic channels*",
B. Coquinot, M. Becker, R.R. Netz, L. Bocquet, N. Kavokine,
Faraday Discussions 246, 556-575 (2024).

2023

[201] "*Concluding remarks: Iontronics, from fundamentals to ion-controlled devices – Random access memorie*s", L. Bocquet, **Faraday Discussions**, **246**, 618-622 (2023)

[200] "*Waste heat recovery using thermally responsive ionic liquids through TiO2 nanopore and macroscopic membranes*", M. Pascual, N. Chapuis, S. Abdelghani-Idrissi, M.-C. Jullien,A. Siria, and L. Bocquet, **Energy & Environmental Science 16**, 4539 - 4548 (2023)

[199] "*Unified non-equilibrium simulation methodology for flow through nanoporous carbon membrane*", G. Monet, M.-L. Bocquet, L. Bocquet, **J. Chem. Phys. 159**, 014501 (2023).

[198] "*Disentangling 1/f noise from confined ion dynamics*", P. Robin, M. Lizée, Q. Yang, T. Emmerich, A. Siria, L. Bocquet, **Faraday Discussions** in press (2023)

[197] "*Nanofluidics at the crossroad*", P. Robin, L. Bocquet, **J. Chem. Phys. 158**, 160901 (2023).

[196] "*Ion filling of a one-dimensional nanofluidic channel in the interaction confinement regime*", P. Robin, A. Delahais, L. Bocquet, N. Kavokine, **J. Chem. Phys. 158**, 124703 (2023).

[195] « *Quantum feedback at the solid-liquid interface: flow-induced electronic current and negative friction* », B. Coquinot, L. Bocquet, N. Kavokine, **Phys. Rev. X 13**, 011020 (2023).

[194] « *Strong electronic winds blowing under liquid flows on carbon surfaces* », A. Marcotte, M. Lizee, B. Coquinot, N. Kavokine, K. Sobnath, C. Barraud, A. Bhardwaj, B. Radha, A. Niguès, L. Bocquet, and A. Siria, **Phys. Rev. X 13**, 011019 (2023).

[193] « *Long-term memory and synapse-like dynamics in two-dimensional nanochannels* », P. Robin, T. Emmerich, A. Ismail, A. Niguès, Y. You, G.-H. Nam, A. Keerthi, A. Siria, A.K. Geim, B. Radha, L. Bocquet, **Science 379**, 161-167 (2023).

2022

[192] « *Au Coeur des étonnants flots moléculaires* », L. Bocquet and A. Siria, **Pour la Science**, issue of september 2022.

[191] « *Interaction confinement and electronic screening in two-dimensional nanofluidic channels* », N. Kavokine, P. Robin, L. Bocquet, **J. Chem. Phys. 157** 114703 (2022).

[190] « *Wave drag in unsteady motion* », A. Dode, R. Carmigniani, C. Cohen, C. Clanet, L. Bocquet, **J. Fluid Mech. 951** A15 (2022).

[189] « *Fluctuation-induced quantum friction in nanoscale water flows* », N. Kavokine, M.-L. Bocquet and L. Bocquet,

Nature 602 84-90 (2022).

[188] « *Exalted nanofluidic transport in activated carbon nanoconduits* »,
T. Emmerich, V. Kalangi, A. Nigues, A. Keerthi, B. Radha, A. Siria, L. Bocquet,
Nature Materials 21 696-702 (2022).

[187] « *Chemi-sorbed versus physi-sorbed surface charge and its impact on electrokinetic transport: carbon versus boron-nitride surface* »,
E. Mangaud, M.-L. Bocquet, L. Bocquet, and B. Rotenberg,
J. Chem. Phys., **156** , 044703 (2022).

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[186] « *Modeling of emergent memory and voltage spiking in ionic transport through angström-scale slits* »,
P. Robin, N. Kavokine, and L. Bocquet,
Science, **373**, 687–691 (2021).

[185] « *Wetting transition of ionic liquids at metal surfaces: A computational approach to electronic screening using a virtual Thomas-Fermi fluid* »,
A. Schlaich, D. Jin, L. Bocquet and B. Coasne,
Nature Materials 21, 237–245 (2021).

[184] « *Life on the osmotic slopes* »,
L. Bocquet and J. Palacci,
Nature Physics 17, 763–764 (2021)

[183] « *Fluids at nanoscales: from continuum to sub-continuum transport* »
N. Kavokine, R. Netz, L. Bocquet,
Annual Review of Fluid Mechanics 53, 377-410 (2021).

2020

[182] "*Mechanically activated ionic transport across single digit carbon nanotubes*",
A. Marcotte, T. Mouterde, A. Nigues, A. Siria and L. Bocquet,
Nature Materials 19, 1057–1061 (2020).

[181] "*Numerical analysis of polymer diffusiophoresis by means of the molecular dynamics*",
S. Ramirez-Hinestrosa, H. Yoshida, L. Bocquet, D. Frenkel,
J. Chem. Phys., **152**, 164901 (2020).

[180] "*Nanofluidics coming of age*",
L. Bocquet,
Nature Materials, **19**, 254-256(2020).

[179] "*Local and global force balance for diffusiophoretic transport*",
S. Marbach, H. Yoshida and L. Bocquet,
J. Fluid Mech., **892**, A6 (2020).

[178] "*Nanotribology of ionic liquids: Transition to yielding response in nanometric confinement with metallic surfaces*",
A. Laine, A. Nigues, L. Bocquet and A. Siria,
Physical Review X, **10**, 011068 (2020).

[177] "*Resonant osmosis across active switchable membranes*",
S. Marbach, N. Kavokine, L. Bocquet,
J. Chem. Phys , **152**, 054704 (2020).

[176] "*Ultrafast photomechanical transduction through thermophoretic implosion*",

N. Kavokine, S. Zou, R. Liu, H. Zhong, A. Nigues, B. Zou and L. Bocquet,
Nature Communications 11, 50 (2020).

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[175] "*Nanorheology of interfacial water during ice gliding*",
L. Canale, J. Comtet, A. Nigues, C. Cohen, C. Clanet, A. Siria and L. Bocquet,
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[174] "*Adsorption kinetics in open nanopores as a source of low frequency noise*",
S. Gravelle, R.R. Netz and L. Bocquet,
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D.J. Rankin, L. Bocquet, D.M. Huang,
Journal of Chemical Physics 151, 044705 (2019).

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S. Marbach and L. Bocquet,
Chemical Society Reviews 48, 3102-3144 (2019).

[171] «*Ionic Coulomb blockade as a fractional Wien effect* »
N. Kavokin, S. Marbach, A. Siria, L. Bocquet,
Nature Nanotechnology 14, 573–578 (2019).

[170] « *Atomic rheology of gold nanojunctions* »
J. Comtet, A. Lainé, A. Niguès, L. Bocquet, A. Siria,
Nature 569, 393–397 (2019).

[169] «*Molecular streaming and its voltage-gated response in Angström scale channels*»
T. Mouterde, A. Keerthi, A. Poggioli, S. Dar, A. Siria, A.K. Geim, L Bocquet and R. Boya,
Nature 567, 87 (2019).

[168] «*MicroMegascope based dynamic Surface Force Apparatus*»
A. Lainé, L. Jubin, L. Canale, L. Bocquet, A. Siria, S. Donaldson, A. Niguès,
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[167] «*Beyond the Trade-Off: Dynamic Selectivity in Ionic Transport and Current Rectification*»
A. Poggioli, A. Siria, L. Bocquet,
J. Phys. Chem. B 123, 1171–1185 (2019).

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[166] «*Interfacial transport with mobile surface charges and consequences for ionic transport in carbon nanotubes*»
T. Mouterde and L. Bocquet,
The European physical journal. E, 41, 148 (2018).

[165] «*Transport and dispersion across wiggling nano-pores*»
S. Marbach, D. Dean, L. Bocquet,
Nature Physics 14, 1108-1113 (2018).

[164] «*MicroMegascope*»
L. Canale, A. Laborieux, A. Aroul Mogane, L. Jubin, J. Comtet, A. Lainé, L. Bocquet, A. Siria, A. Niguès,
Nanotechnology 29 355501 (2018).

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H. Yoshida, V. Kaiser, B. Rotenberg, and L. Bocquet,

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[162] «*Dramatic pressure-sensitive ion conduction in conical nanopores*»
L. Jubin, A. Poggioli, A. Siria and L. Bocquet,
Proc. Nat. Acad. Sci USA 115 4063-4068 (2018).

[161] «*Cross-over of the power law exponent for carbon nanotube conductivity as a function of salinity*»
Y. Uematsu, R. Netz, L. Bocquet and D. Bonthuis,
J. Phys. Chem. B 22, 2992−2997 (2018).

[160]«*Shear thinning in non-Brownian suspensions*»
G. Chatté, J. Comtet, A. Niguès, L. Bocquet, A. Siria, G. Ducouret, F. Lequeux, N. Lenoir, G. Ovarlez and A. Colin
Soft Matter, 14 879-893 (2018).

2017

[159] «*New avenues for the large scale harvesting of blue energy*»
A. Siria, M.-L. Bocquet and L. Bocquet,
Nature Reviews Chemistry 1 0091 (2017).

[158] «*Active sieving across driven nanopores for tunable selectivity*»
S. Marbach and L. Bocquet,
Journal of Chemical Physics 147 154701 (2017).

[157] « *The Landau-Squire plume* »
E. Secchi, S. Marbach, A. Niguès, A. Siria and L. Bocquet,
J. Fluid Mech. 826 R3 (2017).

[156] « *Linking Rheology and Printability for Dense and Strong Ceramics by Direct Ink Writing* »
A. M'Barki, L. Bocquet, A. Stevenson,
Scientific Reports 7, 6017 (2017) (2017).

[155] « *Flows in one-dimensional and two-dimensional carbon nanochannels: Fast and curious*»
M. Majumder, A. Siria, L. Bocquet,
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[154] « *Osmotic and diffusio-osmotic flow generation at high solute concentration. I. Mechanical approaches* »
S. Marbach, H. Yoshida, L. Bocquet,
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[153] « *Osmotic and diffusio-osmotic flow generation at high solute concentration. II. Molecular dynamics simulations* »
H. Yoshida, S. Marbach, L. Bocquet,
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[152] «*Pairwise frictional profile between particles determines discontinuous shear thickening transition in non-colloidal suspensions*»,
J. Comtet, G. Chatté, Antoine Niguès, L. Bocquet, A. Siria, and A. Colin,
Nature Communication 8 15633 (2017).

[151] *« Nanoscale capillary freezing of ionic liquids confined between metallic interfaces and the role of electronic screening»,*
J. Comtet, A. Niguès, V. Kaiser, B. Coasne, L. Bocquet and A. Siria,
Nature Materials, 16 634-639 (2017).

[150] *«Electrostatic interactions between ions near Thomas-Fermi substrates and the surface energy of ionic crystals at imperfect metals»,*
V. Kaiser, J. Comtet, A. Niguès, A. Siria, B. Coasne, L. Bocquet,
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[149] *« Origins of Negative Gas Adsorption»,*
J. Evans, L. Bocquet and F.X. Coudert,
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[148] *«Chemisorption of Hydroxide on 2D Materials from DFT Calculations: Graphene Versus Hexagonal Boron Nitride»,*
B. Grosjean, C. Péan, A. Siria, L. Bocquet, R. Vuilleumier, M.-L. Bocquet
Journal of Physical Chemistry Letters 7, 4695-4700 (2016).

[147] *«Carbon membranes for efficient water-ethanol separation»,*
S. Gravelle, H. Yoshida, L. Joly, C. Ybert, L. Bocquet,
Journal of Chemical Physics 145 124708 (2016).

[146] «*Massive radius-dependent flow slippage in single carbon nanotubes* »,
E. Secchi, S. Marbach, A. Niguès, D. Stein, A. Siria and L. Bocquet,
Nature 537 210 (2016).

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S. Marbach and L. Bocquet,
Physical Review X 6, 031008 (2016).

[144] «*Destabilization of a flow focused suspension of magnetotactic bacteria*»,
N. Waisbord, C. Lefevre, L. Bocquet, C. Ybert, C. Cottin,
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« *Labyrinthine water flows across multilayer graphene-based membranes: molecular dynamics versus continuum predictions*»,
Journal of Chemical Physics 144 234701 (2016).

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« Activated desorption at heterogeneous interfaces and long-time kinetics of hydrocarbon recovery from nanoporous media »,
Nature Communications 7, 11890 (2016).

[141] JF. Rupprecht, N Waisbord, C. Cottin, C. Ybert, L. Bocquet
« Velocity condensation for magnetotactic bacteria »,
Physical Review Letters 116 168101 (2016).

[140] E. Secchi, A. Niguès, L. Jubin, A. Siria, L. Bocquet
« Scaling behavior for ionic transport and its fluctuations in individual carbon nanotube »,
Physical Review Letters 116 154501 (2016).

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Anomalous capillary filling and wettability reversal in nanochannels
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« Nanofluidics: Phonon modes for faster flow »,
Nature Nanotechnology 10 657 (2015).

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« Subcontinuum mass transport of condensed hydrocarbons in nanoporous media »,
Nature Communications 6, 6949 (2015)

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« *Ultra-sensitive flow measurement in individual nanopores through pressure-driven particle translocation* »,
Nanoscale 7 7965 (2015).

[135] F. Ginot, I. Theurkauff, D. Levis, C. Ybert, L. Bocquet, L. Berthier, C. Cottin
« *Non-equilibrium equation of state in suspensions of ative colloids* »,
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[134] « *Perméabilité optimale des aquaporines, une histoire de forme ?* »,
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Medecine/Sciences 31 174 (2015).

[133] « *From Paris to Lyon, and from simple to complex liquids: a view on Jean-Pierre Hansen's contribution* »,
J.-L. Barrat, T. Biben and L. Bocquet,
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2014

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