Benoit Coasne

(CNRS Research Director, Section 17)

Benoit COASNE[1,2,3] (Male, 50 ans, 2 children, benoit.coasne@univ-grenoble-alpes.fr)
CNRS Research Director 1st class (section 17, CNRS)
[1] Lab. Interdisciplinaire de Physique, CNRS/Univ. Grenoble 5Alpes, Grenoble, France
[2] ILL Theory Group, Institute Laue Langevin (Neutron Source), Grenoble, France
[3] LCR Caractérisation des Matériaux pour les Energies Nouvelles (CARMEN2)
Researcher id: http://scholar.google.com/citations?user=-rO1SkUAAAAJ&hl=en&oi=ao
Site Web: benoitcoasne.github.io

Research Theme: « Adsorption and Transport in Nanoporous Materials »

Academic Records and Education

2015/… **CNRS Reseach Director** (1st Class since 10/2022)
Lab. Interdisciplinaire de Physique, CNRS/Univ. Grenoble Alpes, France.

2023/… **Adjunct Professor** (University of Maryland UMD)
Dept. Chemistry/Biochemistry, College Park, MD, USA

2023/… **Leader Soft Matter**
ILL Theory Group, Institute Laue Langevin, Grenoble, France

2012/15 **CNRS Research 1st class + MIT Visiting Associate Prof.**
CNRS/MIT Lab, USA. Group leader « Multiscale adsorption/transport »

2011 **Habilitation** à diriger des recherches, *Thermodynamics/dynamics of fluids, electrolytes and solides in porous materials*. Univ Montpellier

2005/12 **CNRS Researcher** (1st class since 01/2009)
Institut Charles Gerhardt, Montpellier, France

2003/04 **Postdoctoral Researcher**, Department of Chemical Engineering,
North Carolina State University, Raleigh, NC, USA

2003 **PhD Physics**, *Adsorption and condensation of fluids in porous silicon*
Groupe de Physique des Solides, Univ Paris 7, France

Science/International Recognition

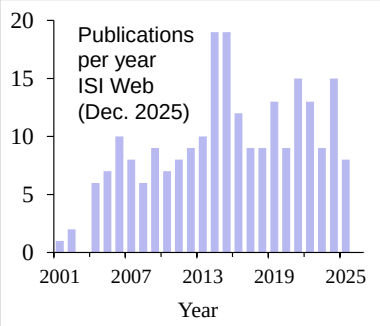
234 Articles (3 Nature Mat, 6 Nat Comm, 2 Chem Soc Rev, 1 Chem Rev., 2 PNAS, 2 JACS, 4 PRL., 4 JPC Lett.)

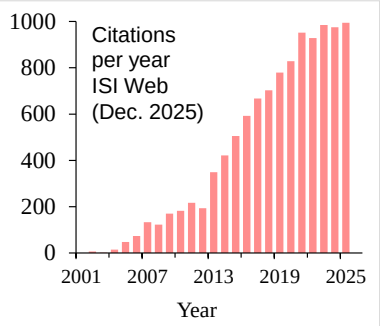
55 (WOS) H-index (**61** Google Sch)

~10600 Citations

61 Invited Conferences

85 Seminaires, Schools, etc.





Awards and Distinctions

2023/24 Adjunct Professor, Univ. Maryland, College Park, MD, USA
2023/27 Prime RIPEC C3, CNRS et MENESR
2019 Invited Professor, Chair Saint-Gobain, Institut Navier, France
2016/22 Board of Directors, International Adsorption Society
2015/19 Prime d'encadrement doctoral et de recherche, CNRS et MENESR
2012/15 Visiting Associate Professor, MIT, Cambridge, USA
2011/17 Cofounder of the French Adsorption Society
2010/14 Prime d'Excellence Scientifique, CNRS et MENESR
2013 Scientific Collaborator, Faculté Polytechnique de Mons, Belgium
2011 Award "Chercheur d'Avenir 2011" in Languedoc Roussillon, France
2006 Visiting Scholar, Adam Mickiewicz University, Poznan, Poland

RESPONSIBILITIES, MANAGEMENT AND SCIENTIFIC ANIMATION

Responsibilities, Collective Tasks

2025/28 Conseil d'Administration (membre élu), Société Française de Physique
2024/27 President Chemical Physics Division, Joint Div. SCF/SFP
2022/… Président, French/German Adsorption Initiative (www.adsorption.eu)
2024/… Deputy Director (Suppléant) Labex MateriAlps, UGA/Grenoble-INP
2024/… ILL College 2 Secretary, Theory College, Inst. Laue Langevin
2022/… ILL Review Panel, Institut Laue Langevin (Neutron Center), Grenoble
2022/24 Board Member Division Chimie Physique, Société Chimique de France
2022/24 Scientific Council Expert, IFP Energies Nouvelles
2019/… Principal Science Advisor, VEOLIA Design Center, St Maurice, France
2019/22 Panel Chair IAS Carbon neutrality, International Adsorption Society
2016/20 Nominated Member LIPhy Council, CNRS/University Grenoble Alpes
2011/17 President of the French Adsorption Society (elected and then reelected)
2012/15 Group Leader « Multiscale Adsorption and Transport »
CNRS/MIT Lab., Boston, USA
2015/20 Member Poromechanics Committee, Am. Soc. Civil Enginers
2011/14 Member Institute Charles Gerhardt Council, CNRS/Univ. Montpellier
2009/12 Head of the Communication Commission of Institute Charles Gerhardt
2009/12 Member Scientific Animation of the Institute Charles Gerhardt
2010/16 Board member, French Zeolite Society
2009/12 Board member, Local section LR of the French Chemical Society SCF

Commission of Trust

2025/27 Review Panel FWO, Flanders Res. Foundation
2019/20 M-ERA.NET strategy expert group (21 pers.) Roadmapping 2020 call
2020 Science Council Expert, IFP Energies Nouvelles
2018 Guest Editor, Issue "Adsorption" in Curr. Op. Chem. Eng. (Elsevier)
2017/18 Panel ANR, French National Science Agency « Matériaux inorganiques »
2015/21 Panel FWO, Flanders Res. Foundation « Chem Eng & Material Sci. »
2014 Review Editor in the Editorial Board of Frontiers | Energy Research
2014 Co-Guest Editor, « Design/modeling porous materials », Eur Phys J

Organization of scientific meetings

2026 Chair "Matériaux 2026", Grenoble, France (~1500 personnes)
2025 Scientific Committee "Fundamentals of Adsorption 15", Porto, Portugal
2023 Conference co-chair "FRA/GER Adsorption meeting", Strasbourg, France
2018 Colloquium Chair "Matériaux poreux, granulaires, à grande surface spécifique", Conference Matériaux 2018, Strasbourg, France (~ 100 people)
2018 Symp. Chair "Soft Porous Materials", Interpore2018, N. Orleans, USA
2010/17 Journées Annuelles Association Française de l'Adsorption (~ 70 people)
2011/16 Journées Annuelles Groupe Français des Zéolithes (~ 80 people)
2013 Ionic Liquids for Materials (~ 100 people) ILMAT2013, Montpellier
2010 Journées SCF Grand Sud Ouest (~80 people), Montpellier

Student and postdoc supervision (19 PhD, 23 postdocs, 18 undergrads)

● **19 PhD Students** 1. J. Dweik, 2. C. Abrioux, 3. P. Bonnaud, 4. F. Villemot, 5. M. Lepinay (ST Micro), 6. P. Billemont (UMons, Belgique), 7. L. Deliere (CEA), 8. H. Getachew, 9. D. Jin, 10. R. Bey, 11. I. C. M. Costa (IFPEN), 12. M. Chen (ETH medal award, Switzerland), 13. Z. Zaafouri (IFPEN), 14. S. Cohen (U. Maryland, Chateaubriand Fellow), 15. W. Kellouai, 16. N. Ferreira de Souza, 17. L. Didier, 18. N. Ben Amor (IFPEN), 19. P. Grisanti ● **24 Postdocs** 1. P. Cazade, 2. G. Ori, 3. L. Ngoc Ho, 4. R. Hartkamp, 5. A. Botan, 6. G. Hantal, 7. K. Falk, 8. C. Bousige, 9. P. Billemont, 10. T. Lee, 11. A. Obliger, 12. G. Couchaux, 13. D. Mehlhorn, 14. A. Schlaich, 15. R. Manokaran, 16. A. Sam, 17. V. Prasad, 18. S. Gravelle, 19. V. Kumar, 20. C. Herrero, 21. S. Dasgupta, 22. A. Coste, 23. S. Lafon, 24. F. Mourao ● **10 Undergrad.** 1. L. Naamar, 2. G. Pallares, 3. D. Horlait, 4. P. Epicoco, 5. I. Aydogdu, 6. J. Nigon, 7. F. Freitag, 8. L. Atmani, 9. H. Meyer, 10. J. Mohan, 11. D. Tabacchioni, 12. Z. Zaafouri, 13. M. Barbagero, 14. K. Olson, 15. P. Sanchez-Moreno Royer; 16. N. Bordeneuve. 17. G. Jordão de Paula Silva, 18. G. Åkerlind, 19. F. Mata Infante

PhD and Habilitation Jurys (65 including R = Reviewer, P = President)

65. O. Moro (**R**, Besançon + Bristol UK), 64. M. Ouadfel (**R**, Lyon), 63. Felipe Mpurao (**R**, Brazil), 62. Swetha Nair (**P**, Paris), 61. B. Mahmoud Hawchar (**R+P**, Paris), 60. M. Abdel Sater (**R**, Paris), 59. N. Gaudy (**R**, Toulouse), 58. L. Mischler (Bordeaux), 57. A. Shomali (ETH Switzerland), 56. HDR R. Vermorel (**R**, Grenoble), 55. J. Martin-Dalmas (**P**, Grenoble), 54. J. Joliat (**R**, Besançon), 53. G. Santos Paulo (**R**, Italy), 52. S. Franiatte (**R**, Toulouse), 51. V. Girelli (Strasbourg), 50. T. Outerelo Corvo (**P**, Saclay), 49. R. Fayad (**R**, Lyon), 48. P. Carta (**R**, Italy), 47. Y. Khaldouni (**R**, Pau), 46. K. Wang (**P**, Montpellier), 45. HDR R. Semino (**R**, Paris), 44. F. Rizk (**R**, Lyon), 44. K. Ariskina (**R**, Pau), 42. A. Hammoumi (**R**, Cavaillon), 41. M. Ducamp (**R**, Cavaillon), 40. M. Benchaabane (**R**, Paris), 40. A. Robert (Paris), 39. M. Ducamp (**R**, Paris), 38. A. Marcotte (**P**, ENS Paris), 37. A. Mishra (**R**, Univ. Metz), 36. F. Guy (**P**, Chambéry), 35. C. Methais (**R**, Besançon), 34. M. Sperra (**R**, SP, Brazil), 34. G. El Tabbal (**R**, Paris), 32. T. Virdis (**R**, VUB Brussels), 31. J. B. Pigot (**R**, Paris), 30. A. Patt (**R**, Dijon), 29. A. Hafreager (**R**, Oslo), 28. R. Bingre (**P**, Strasbourg), 27. K. L. Nguyen (**R**, Marseille), 26. A. Coste (Montpellier), 25. N. Ganfoud (**R**, Paris), 24. C. Cabaud (**P**, Paris), 23. M. Chen (**R**, ETH Zurich), 22. HDR M. Vandamme (**R**, Paris), 21. B. K. Xiong (Tours), 20. E. Perrin (**R** + **P**, Berlin + Paris), 19. J. Wolanin (**R**, Paris), 18. HDR J. Jacquemin (**R**, Tours), 17. P. Bacle (**R**, Paris), 16. W. Louisfrema (**R**, Paris), 15. W. Goncalves (**R**, Lyon), 14. S. Dutta (**R**, Rennes), 13. J. M. Vanson (**R**, Paris), 12. M. Ciantar (**R**, Paris), 11. C. Péan (**R**, Paris), 10. C. Sempere (**R**, Lyon), 9. M. Michelin-Jamois (**R**, Lyon), 8. B. Farbos (**R**, Bordeaux), 7. G. Aubry (**R**, Grenoble), 6. A. Bouzid (Strasbourg), 5. M. De Toni (**R**, Paris), 4. L. Brochard (**R**, Paris), 3. M. Amrouche (**R**, Manchester), 2. A. Botan (**R**, Paris), 1. M. Jeffroy (Orsay)

VALORISATION, TECHNOLOGICAL TRANSFER, INDUSTRIAL RELATIONS

Contracts and Research Grants (* = total funding unknown)

Contrat	Dates	Organisme	Partners	Montant	Responsabilité
Contrat ESA	2024/25	ESA	2	~60 k€	Coordinator
ANGSTROEM	2024/28	ANR	4	~100 k€	Partner
Pompe THz-Neutrons	2024/25	CEA RAR	2	~100 k€	Co-Coordinator
Contrat Total Energies	2024/25	Total Energies	1	~180 k€	Coordinator
CEMAM	2024/25	Labex CEMAM	2	~50 k€	Co-Coordinator
HTD-POM	2024/28	ANR/PRCI	2	~300 k€	Coordinator
COCLICO	2023/27	ANR	2	~100 k€	Partner
CHIRALCELL	2023/27	ANR	4	~50 k€	Partner
SESAME	2022/26	ANR	4	~50 k€	Partner
ACOUFEN	2021/25	ANR	3	~500 k€	Coordinator
MENIHR	2021/25	ANR	3	106 k€	Partner
IRGA21	2021/23	Univ. Grenoble Alpes	3	43 k€	Co-Coordinator
MODYTICS	2019/23	ANR Astrid	4	130 k€	Partner
CATCALL	2019/23	ANR	2	130 k€	Partner
2FDN	2019/23	PhD grant	2	103 k€	Coordin.
IFPEN	2017/20	Research contract	1	30 k€	Coordin.
TWIST	2017/20	ANR	5	80 k€	Partner
CEA	2017/20	Research contract	3	40 k€	Partner
EUROKIN4	2017/18	Research contract	1	12.5 k€	Coordin.
IFPEN	2016/19	Research contract	1	18 k€	Coordin.
TOTAL	2017/18	Research contract	3	7 k€	Partner
TAMTAM	2011/15	ANR	4	~500 k€	Coordin.
X-Shale	2012/15	Industry	3	~1 M€/year	Co-coordin.
OCTAPPOM	2014	NEEDS	2	~100 k€	Coordin.
GENESIS	2013/16	ANR	3	~400 k€	Partner
TARG-E-D	2013/16	ANR	3	~376 k€	Partner
Transport_ion	2012/15	Cherch. Avenir	2	~70 k€	Coordin.
NanoChalco	2011/15	ANR	3	~500 k€	Coordin.
Structuring_IL	2012/15	CINES	1	CPU Time	Coordin.
IDDILIQ	2009/12	ANR	1	200 k€	Partner
ATILH	2008/10	Industry	5	100 k€*	Partner
SiMoNanoMem	2008/10	ANR	4	400 k€	Partner
Eau, Electro	2009/10	CINES	1	CPU Time	Coordin.

Partnership with industry/Consulting

2009/… Saint Gobain, Consulting « Adsorption/transport in porous materials »
2019/20 EUROKIN consortium, 200 page report on transport in porous media
2012/15 Shell and Schlumberger, « Adsorption, Transport, Mechanics properties of Gas Shale". Collab. Industry/Academia
2015/17 Gaztransport & Technigaz (GTT) Report on Adsorption (2015) + Report on Knudsen diffusion (2017) + Technical calculations (2017)
2008/2010 Association Technique de l'Industrie des Liants Hydrauliques (ATILH), « Porosity, transport and resistance of concrete ». (2008-2010)

FORMATION, TEACHING, DISSEMINATION

Teaching, Training

2022/… International Master Week, Qingdao University/China, Adsorption and transport in porous materials **(8 h/year)**
2016/… Reearch Training Master Nanosciences, University Grenoble Alpes, Molecular modeling **(40 h/year)**
2018/… Res. Seminar for Master 2 Nanophysics, U. Grenoble Alpes **(1 h/year)**
2018 Collège École Polytechnique X, Multiscale porous materials **(4h)**
2014 Formation Arkema, Characterization techniques of porous solids **(8h)**
2013 Formation ST Microelectronics, Molecular simulation **(16h)**
2012 Collège École Polytechnique X, Multiscale porous materials **(4h)**
2012 Formation IRCELYON, Molecular simulation **(16h)**
2011 Course, Institute of Separative Chemistry, Molecular modeling **(2h)**
2009 Tutorat Bénévole auprès d'élèves en primaire/collège/lycée, Association de quartier Boutonnet, Montpellier **(2 h/week)**
2005/11 Master Phys/Chem, U. Montpellier, Molecular modeling **(8 h/year)**
2000/02 IUT, Univ. Paris 7, Classical Mechanics **(115h)**
2000/01 DEUG, Univ. Marne la Vallée, Electromagnetism **(45h)**
1999/00 DEUG, Univ. Paris 7, Electronics **(70h)**

Communication/Dissemination

2020 Les matériaux nanoporeux: de l'utilité des trous en chimie des matériaux, Chimie Etonnante CNRS (Farrusseng, Coasne)
2020 Des matériaux fonctionnels à l'échelle du nanomètre, Usine Nouvelle **1035**, Oct. 2020 (Farrusseng, Coasne)
2016 Article P. Passebon in Industrie & Technologies, https://www.industrie-techno.com/comprendre-les-gaz-de-schiste-pour-mieux-les-exploiter.42366
2012 L'eau dans les mésopores du ciment, Ciments, Bétons, Plâtres et Chaux **907**, 64, 2012. (Bonnaud, Pellenq, Coasne)
2010 Internship L'Express.fr. 2 articles « Nous comprenons les consommateurs d'eau en bouteilles » et « Le triplement du nucléaire doit être débattu »
2010 Seminar for University Students on Research in France
2008 Seminar for High School Students on Research in France

SCIENTIFIC PRODUCTION

1. Publications in peer-reviewed journals (207)

including 6 invited review articles (titles in red)

Communication releases are indicated in green

In Preparation

P232. C. Grimaud, **B. Coasne**, D. Farrusseng, Methane as a Surrogate for Krypton in Adsorption-Based Characterization of Porous Materials and Surfaces, To be submitted (2025).

P231. A. Schlaich, **B. Coasne**, Universal Critical Point Shift of Fluids Confined in Nanoporous Materials, To be submitted (2025).

P230. E. Doveri, C. Charmette, M. Drobek, G. Despaux, P. Da Costa, B. Coasne, E. Le Clezio, A. Julbe, Unveiling Gas Transport Mechanisms in Porous Membranes via Acoustic Emission, *J. Membrane Sci.*, To be submitted (2025).

P228. C. Herrero, L. Bocquet, **B. Coasne**, Active Walls with Effective Screening Enable Optimum Van der Waals Friction and Electrically Driven Nanofluidic Motion, To be submitted (2025).

P227. A. Sam, **B. Coasne**, R. Venegas, Acousto-chemo-elasticity of bimodal nanoporous media, To be submitted (2025).

P226. R. Manokaran, A. Dombret, B. Coquinot, A. Schlaich, L. Bocquet, **B. Coasne**, oosted Water Transport in FluctuatingNanoporous Materials: MicroscopicSimulations and Stochastic Modeling, To be submitted (2025).

Submitted

P225. N. Ferreira de Souza, C. Herrero, L. Fernando Mercier Franco, **B. Coasne**, Thermal conductivity at solid/fluid interfaces: From microscopic correlations to effective thermal transport in nanofluidics and nanoporous materials, Submitted (2025).

P224. A. Sam, **B. Coasne**, R. Venegas, Wave propagation in fluid-saturated nanoporous media: Upscaling molecular mechanics into continuum-level description, Submitted (2025).

P223. A. Shomali, C. Zhang, **B. Coasne**, E. J. Schofield, D. Derome, J. Carmeliet, Influence of polyethylene glycol treatment on sorption and sorption-induced deformation of amorphous cellulose: Molecular dynamics and poromechanical modeling, Submitted (2025).

P222. N. Ferreira de Souza, L. Fernando Mercier Franco, **B. Coasne**, On the Consistency of Equilibrium and Non-Equilibrium Molecular Dynamics to Assess Thermal Conductivity, *J. Chem. Eng. Data*, Submitted (2025).

P221. D. Jin, Y. Pan, J. Zhong, **B. Coasne**, Critical Nucleation of Nanoconfined Methane Hydrate: Theory and Molecu-lar Modeling, *J. Phys. Chem. Lett.*, Submitted (2025).

P220. N. Ben Amor, D. Bauer, B. Braconnier, **B. Coasne**, Adsorption of Forever Chemical Pollutants: The Physical Chemistry of PFAS near Surfaces, *ACS Environmental Science & Technology*, Submitted (2025).

2026

P219. L. Didier, A. Sam, C. Herrero, R. Venegas, **B. Coasne**, Self-diffusion and Permeability of Methane, Carbon Dioxide, and their Mixture in Zeolite: Cage Effect, Fluid Redistribution, and Nanosegregation, *Microp. Mesop. Mater*, In press (2025).

P218. N. Ben Amor, D. Bauer, B. Braconnier, **B. Coasne**, Adsorption Thermodynamics and Kinetics of Simple and Complex Fluids: Physical Modeling of surface saturation, reservoir depletion, lateral interactions, and collective effects, *Langmuir*, in press (2025).

2025

P217. A. Dombret, A. Sutter, B. Coquinot, **B. Coasne**, L. Bocquet, Enhanced hydrodynamic permeability through fluctuating porous membranes, *Phys. Rev. Fluids*, in press (2025).

P216. S. Gravelle, **B. Coasne**, Adsorption selectivity of water-ethanol mixtures on organosilica surfaces: Role of hydrophilicity, *Open Res. Europe* **5**, 158 (2025).

P215. D. Jin, **B. Coasne**, Phase stability of mixed carbon dioxide/methane hydrates confined in nanoporous carbon, *Langmuir* **41**, 25695 (2025).

P214. S. Gravelle, **B. Coasne**, C. Holm, A. Schlaich, Intermittent molecular motion and first passage statistics for the NMR relaxation of confined water, *Phys. Rev. E* **112**, 035502 (2025).

P213. L. Didier, A. Sam, R. Venegas, **B. Coasne**, Acoustic Response of Molecular Adsorption and Sound Propagation in Nanoporous Materials, *Phys. Rev. Mat.* **9**, 056001 (2025).

P212. R. Manokaran, T. Aumond, J. Eck, O. Ergincan, C. Daniel, D. Farrusseng, **B. Coasne**, Molecular simulation of fluid adsorption in nanoporous adsorbents: Simple descriptors for space decontamination applications, *Adsorption* **31**, 78 (2025).

P211. S. Babaei, **B. Coasne**, M. Ostadhassan, Adsorption-Induced Deformation in Microporous Kerogen by Hydrogen and Methane: Implications for Underground Hydrogen Storage, *Langmuir* **41**, 6364 (2025).

P210. L. N. Ho, A. Lesage, A. Rossini, D. Farrusseng, **B. Coasne**, Dynamics Slowdown Induced by Gas Oversolubility in Nanoconfined Fluids, *ACS Nano* **19**, 12971 (2025).

P209. A. Schlaich, J. L. Barrat, **B. Coasne**, Theory and Modeling of Transport for Simple Fluids in Nanoporous Materials: From Microscopic to Coarse-Grained Descriptions, *Chem. Rev.* **125**, 2561 (2025).

P208. N. Modesto, C. Pinchart, M. A. Sater, P. Judeinstein, R. Ramos, D. Lairez, **B. Coasne**, P. H. Jouneau, M. Appel, P. Fouquet, A. Tengattini, M. Russina, V. Grzimek, G. Gunther, D. Gigmes, T. Phan, Q. Berrod, J. M. Zanotti, Ionic Liquids Based Electrolytes Under 1D CNT Confinement: A Tenfold Gain in Conductivity, *Energy Storage Materials* **75**, 104045 (2025).

P207. A. Shomali, C. Zhang, **B. Coasne**, E. J. Schofield, D. Derome, J. Carmeliet, Cellulose consolidated with Polyethylene Glycol: The Nanoscale Mechanisms Revealed by Hybrid Monte Carlo/Molecular Dynamics Modeling, *Int. J. Biol. Macromol.* **285**, 137661 (2025).

P206. W. Kellouai, P. Judeinstein, M. Plazanet, J. M. Zanotti, Q. Berrod, M. Drobek, A. Julbe, **B. Coasne**, Free Volume Theory of Self-diffusion in Zeolite: Molecular simulation and Experiment, *Microp. Mesop. Mater.* **381**, 113305 (2025). (Invited Paper from IZA selection committee)

2001 – 2024

P205. S. Ghojavand, E. B. Clatworthy, **B. Coasne**, D. H. Piva, R. Guillet-Nicolas, V. Pugnet, P. Kumar-Gandhi, S. Mintova, Dynamic CO2 separation performance of nano-sized CHA zeolites under multi-component gas mixtures, *Chem. Eng. Sci.* **500**, 157101 (2024).

P204. R. Manokaran, D. Farrusseng, **B. Coasne**, Molecular Simulation of Cyclohexane in Nanoporous Materials: Adsorption of Conformers and Coadsorption with Water and Carbon Dioxide, *Langmuir* **40**, 22027 (2024).

P203. T. Aumond, R. Manokaran, J. Eck, O. Ergincan, C. Daniel, D. Farrusseng, **B. Coasne**, A Review on Adsorption in Nanoporous Adsorbents for Gas Decontamination: Space Applications and Beyond, *Ind. Eng. Chem. Res.* **63**, 19375 (2024). (Invited Paper)

P202. A. Schlaich, M. Vandamme, M. Plazanet, **B. Coasne**, Bridging Microscopic Dynamics and Hydraulic Permeability in Mechanically-Deformed Nanoporous Materials, *ACS Nano* **18**, 26011 (2024).

P201. W. Liu, A. Shomali, C. Zhang, **B. Coasne**, J. Carmeliet, D. Derome, Nanostructure and Interfacial Mechanical Properties of PEG/Cellulose Nanocomposites Studied with Molecular Dynamics, *Carbohydrate Polymers* **343**, 122429 (2024).

P200. A. Streb, R. Lively, P. Llewellyn, A. Matsumoto, M. Mazzotti, R. Pini, **B. Coasne**, Towards carbon neutral scientific societies: A case study with the International Adsorption Society, *Adsorption* **30**, 1291 (2024).

P199. M. Santoro, J. Rouquette, M. Fabbiani, F. Di Renzo, B. Coasne, W. Dong, L. Glazyrin, J. Haines, Strong Volume Increase and Symmetrization in Siliceous Zeolites due to Hydrogen Insertion at High Pressure, *Angew. Chem. Int. Ed.* **63**, e202406425 (2024).

P198. L. Hua, A. Shomali, C. Zhang, **B. Coasne**, D. Derome, J. Carmeliet, Anisotropic deformation in a polymer slab subjected to fluid adsorption, *Langmuir* **40**, 4382 (2024).

P197. S. Dutta, A. Nossov, A. Galarneau, Y. Didi, B. Said, R. Denoyel, V. Wernert, **B. Coasne**, F. Guenneau, Apparent Anomalous Temperature Dependence of Self-diffusion Studied by Pulsed-Field Gradient Nuclear Magnetic Resonance and Thermodynamic Modeling, *J. Phys. Chem. Lett.* **15**, 3276 (2024).

P196. N. Ferreira de Souza, L. Fernando Mercier Franco, C. Picard, **B. Coasne**, Thermal Conductivity of a Fluid-Filled Nanoporous Material: Underlying Molecular Mechanisms and the *Rattle* Effect, *J. Phys. Chem. B* **128**, 2516 (2024).

P195. I. C. Medeiros-Costa, L. Catita, D. Wisser, A. Lesage, V. Lefebvre, A. S. Gay, V. Rouchon, C. Laroche, J. Perez-Pellitero, **B. Coasne**, Connectivity Assessment in Hierarchical Zeolites by Correlating Nuclear Magnetic Resonance, Electron Tomography and Adsorption Scanning, *Materials Chemistry and Physics* **315**, 128969 (2024).

P194. W. Kellouai, J. L. Barrat, P. Judeinstein, M. Plazanet, **B. Coasne**, On De Gennes Narrowing of Fluids Confined at the Molecular Scale in Nanoporous Materials, *J. Chem. Phys.* **160**, 024113 (2024).

P193. D. Jin, N. Wu, J. Zhong, **B. Coasne**, Phase stability and nucleation kinetics of salts in confinement, *J. Mol. Liq.* **394**, 123698 (2024).

P192. C. Hadj, B. Dollet, **B. Coasne**, E. Lorenceau, Soap Film Membranes for CO_2/Air Separation, *Langmuir* **40**, 1327 (2024).

P191. V. P. Kurupath, **B. Coasne**, Mixture Adsorption in Hierarchical Nanoporous Zeolites: In-pore and Surface Selectivity, *J. Phys. Chem. B* **127**, 9596 (2023).

P190. L. Hua, C. Zhang, A. Shomali, **B. Coasne**, D. Derome, J. Carmeliet, Sorption-deformation interplay in hierarchical porous polymeric structure composed of slit-pore in amorphous matrix, *Langmuir* **39**, 11345 (2023).

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3. Book or Book Chapters (3)

B3. D. Farrusseng, **B. Coasne**, Solides nanoporeux: de l'utilité des trous en science des matériaux, Etonante Chimie !, Ouvrage de Vulgarisation, *CNRS Editions* (2020).

B2. G. Ori, C. Massobrio, **B. Coasne**, Molecular modeling of glassy surfaces, Molecular dynamics of disordered systems, *Springer* (2015).

B1. R. J. M. Pellenq, **B. Coasne**, P. E. Levitz "Adsorption and Condensation of Xenon in Mesopores having a Microporous Texture or a Surface Roughness", *Molecular Simulation of Adsorption Phenomena* Eds. N. Quirke and D. Nicholson, Taylor and Francis, London (2005).

4. Invited conferences (61)

I61. B. Coasne, Adsorption and Thermal Conductivity in Nanoporous Materials: Underlying Molecular Mechanisms and the Rattle Effect, Interpore 2026, Nantes, France (2026).

I60. B. Coasne, Adsorption and diffusion in nanoporous materials: the view from the nanoscale, Condensed Matter Spring MeetingGerman/Physical Society, Dresden, Germany (2026).

I59. B. Coasne, Theory and Modeling of Fluid Adsorption and Transport in Nanoporous Materials, Physical Chemistry Chemical Physics Symposium (PCCP, RSC), Bangalore, India (2025).

I58. B. Coasne, Adsorption et transport dans les matériaux nanoporeux, 92ème Congrès de l'ACFAS, Montréal, Canada (2025). Visioconference.

I57. L. N. Ho, A. Lesage, A. Rossini, D. Farrusseng, **B. Coasne**, Gas Oversolubility in Nanoconfined Fluids: Adsorption and Dynamics Slow Down, Deutsche Zeolith-Tagung together with Jahrestreffen Adsorption, Erlangen, Germany (2025).

I56. B. Coasne, Les atomes pour quoi faire ? Workshop sur les simulations atomistiques pour la R&D en matériaux, Paris, France (2024).

I55. B. Coasne, Confinement of Fluids at the Nanoscale: Adsorption and Transport in Nanoporous Materials, *GDR ISM/SOPHY*, ESPCI, Paris, France (2024).

I54. B. Coasne, On De Gennes Narrowing of Fluids Confined at the Molecular Scale in Nanoporous Materials, *US DOE Res. Center for Enhanced Nanofluidics Transport*, MIT, Boston, USA (2024). Visioconference.

I53. B. Coasne, Adsorption and diffusion in nanoporous materials: the view from the nanoscale (Keynote talk), *CPM-9: 9th International Workshop "Characterization of Porous Materials: from Angstroms to Millimeters"*, Delray Beach, FL, USA (2024).

I52. B. Coasne, On De Gennes narrowing for molecularly confined fluids (invited talk, symposium 'Liquid and electrolyte anomalies in nano-confinement: structure, dynamics, reactivity"), *ACS Meeting 2024*, New Orleans, LA, USA (2024).

I51. B. Coasne, Bridging Molecular Dynamics and Macroscopic Transport in Nanoporous Materials (invited talk), *CECAM Workshop "Fluids in porous materials: from fundamental physics to engineering applications"*, EPFL Lausanne, Switzerland (2023).

I50. B. Coasne, Dynamics in compliant nanoporous materials: Coupling multiscale dynamics and mechanics (invited talk), *Modelling Complexity in Mechanics*, Alghero, Sardinia, Italy (2023).

I49. B. Coasne, Oversolubility in nanoconfinement: from adsorption in porous media to wetting of interfaces (invited talk, symposium 'Reactivity in nanoconfined interfaces"), *ACS Meeting 2023*, Indianapolis, IN, USA (2023).

I48. B. Coasne, Reduced phase stability and faster formation/dissociation kinetics in confined methane hydrate (invited talk), *GDR Hydrates*, Rueil Malmaison (Paris), France (2022).

I47. B. Coasne, Adsorption and Transport in Nanoporous Materials (keynote, colloque 10), *Matériaux 2022*, Lille, France (2022).

I46. B. Coasne, Wetting and phase transitions of ionic liquids at metal surfaces: Electronic screening using a virtual Thomas–Fermi, *CECAM Workshop on Ion adsorption and electrokinetic transport at interfaces*, Marcoule (Avignon), France (2022).

I45. B. Coasne, Gas Adsorption in Zeolite and Thin Zeolite Layers: Molecular Simulation, Experiment and Adsorption Potential Theory, *8th Workshop "Prospects & Challenges in Zeolites and Related Porous Materials"*, Cabourg/Caen, France (2022).

I44. B. Coasne, Multiscale diffusion in carbonaceous materials, *CECAM Workshop on adsorption in microporous carbons for a range of societal and emerging applications*, Bordeaux, France (2022).

I43. B. Coasne, Adsorption and diffusion in zeolitic materials, *Groupe Français des Zeolithes (GFZ)*, Vogue (Ardeche), France (2022). Keynote Invitation.

I42. B. Coasne, Fluid adsorption and diffusion in zeolitic materials, *First International Edition of the 21st Chinese Zeolite Conference (21CZC)*, Qingdao, Shandong Province, China (2021). Visioconference.

I41. B. Coasne, Adsorption and transport in nanoconfinement, *Summer Workshop nanoCAFÉ group* (Sapienza Universita di Roma), Siena (Tuscany), Italy (2021). 3 seminars on "Adsorption and criticality in nanoconfined fluids", "Wetting and phase transitions at metallic surface", "Bottom up model of dynamics/transport in porous media"

I40. B. Coasne, Fluid adsorption and transport in nanoporous materials, *Annual meeting of the German Adsorption Society*, Frankfurt, Germany (2021)..

I39. B. Coasne, Adsorption et transport de fluides dans des angstropores, *Rencontres Francophones de l'Association Française de l'Adsorption*, France (2021). Visioconference.

I38. B. Coasne, Fluid adsorption and diffusion in nanoporous materials, *US DOE Res. Center for Enhanced Nanofluidics Transport*, MIT, Boston, USA (2021). Visioconference.

I37. B. Coasne, Fluid adsorption and diffusion in nanoporous materials, *2021 Biot-Bazant Conferenc eon Engineering Mechanics and Physics of Porous Materials*, Northwestern University, Chicago, USA (2021). Visioconference.

I36. B. Coasne, Fluid adsorption and diffusion in nanoporous materials, *APS March Meeting*, USA (2021). Visioconference.

I35. B. Coasne, Adsorption and diffusion in porous materials, *10th International Symposium on Heat Transfer*, Beijing, China (2024). Postponed 2024 due to COVID-19.

I34. B. Coasne, Adsorption and diffusion in porous materials, *8th Workshop* NIMS-UR1-CNRS-SG, Tsukuba, Japan (2019).

I33. B. Coasne, Multiscale adsorption and transport in porous materials, *Workshop Modèles cinétiques pour les milieux poreux*, Bordeaux, France (2019).

I32. B. Coasne, Atom-scale simulation of adsorption and transport in nanoporous media (keynote), *Symposium on Acoustics of Nanoporous Materials*, Salford University, Manchester, UK (2019).

I31. B. Coasne, Multiscale adsorption and transport in porous materials, *Colloque Matériaux poreux: Synthèse, Propriétés, Applications*, College de France, Paris, France (2019).

I30. B. Coasne, Hydrocarbon adsorption and transport in realistic molecular model of kerogen's structure, *2018 MRS International Materials Research Congress*, Cancun, Mexico (2018).

I29. B. Coasne, Adsorption et transport dans les milieux nanoporeux, *Journées de la Matière Condensée 2018*, Molecular liquids under micro/mesoporous confinement, Grenoble, France (2018).

I28. B. Coasne, Realistic molecular model of kerogen in gas shales: hydrocarbon adsorption and transport (keynote 30'), *Materiaux 2018 – Symposium Matériaux Carbonés*, Strasbourg, France (2018).

I27. B. Coasne, Desorption: drying at the nanoscale?, *The Physics of Drying*, Marne-La-Vallée, France (2018).

I26. B. Coasne, Molecular Approach to Adsorption in Multiscale Porous Materials, *1st International GFZ edition*, Cabourg, France (2018).

I25. B. Coasne, Oversolubility effects in nanoconfined solvents, *2018 MRS International Materials Research Congress*, Cancun, Mexico (2018).

I24. B. Coasne, Modeling Adsorption and Transport in Multiscale Porous Materials, *Materials, Characterization, Catalysis*, Zurich, Switzerland (2018).

I23. B. Coasne, Adsorption and Transport in Multiscale Porous Materials, *American Institute of Chemical Enginers*, Minneapolis, MN, USA (2017).

I22. B. Coasne, Poroelastic Theory Applied to the Adsorption-Induced Deformation of Vitreous Silica (plenary talk), *6th Biot Conference on Poromechanics*, Paris, France (2017).

I21. B. Coasne, Molecular Modeling of Porous Materials: Structure, Texture and Adsorption Properties, *Energy Materials Nanotechnology Mesoporous Materials*, Prague, Czech Republic (2016).

I20. B. Coasne, Adsorption and Transport in Multiscale Porous Media, *Multiscale high-performance computational modelling*, EMPA Topical Day, Zurich, Switzerland (2015).

I19. B. Coasne, Atom-scale modelling of elastic and failure properties of clays and clay/organic hybrid materials, *Reactive Force Fields: From Development and Implementation to Applications*, RSC Faraday Division and CCP5, Manchester, UK (2015).

I18. B. Coasne, Adsorption and transport in hierarchical porous materials, *Fourth Workshop on Zeolites: Prospects & Challenges*, Caen, France (2015).

I17. B. Coasne, Multiscale adsorption and transport in porous materials, *6th International Symposium "Advanced microporous and mesoporous materials"*, Black Sea Coast, Bulgaria (2015).

I16. B. Coasne, Adsorption and transport in multiscale porous materials, *CECAM Workshop "Simulation of systems under thermodynamic-like gradients"*, Zaragoza, Spain (2015).

I15. B. Coasne, Adsorption and transport in multiscale porous materials, *Workshop MultiScale Porous Materials*, San Sebastian, Spain (2014).

I14. B. Coasne, Molecular modeling of Amorphous Porous Materials, *European Research Materials Society – Fall Meeting*, Warsaw, Poland (2014).

I13. B. Coasne, Adsorption and Transport in Hierarchical Zeolites: The view from the NanoScale, *1st International Symposium on Energy Challenges and Mechanics*, Aberdeen, Scotland (2014).

I12. B. Coasne, A bottom-up model of adsorption and transport in multiscale porous media, *American Society of Mechanical Engineering Annual Meeting*, Montreal, Canada (2014).

I11. B. Coasne, Crystallization in porous materials: the view from the nanoscale, *4th International Workshop on Crystallization in Porous Media*, Amsterdam, Netherlands (2014).

I10. B. Coasne, Chemistry of interfaces between inorganic minerals and porous carbons: implications for the mechanical properties of gas shale, *Society of Engineering Science and American Society of Mechanical Engineering Annual Meetings*, Providence, RI, USA (2013).

I9. **B. Coasne**, "Adsorption, intrusion, and freezing in porous silica: the view from the nanoscale". *3rd International Conference on Nanotek (Nanotek 2013)*, Las Vegas, NV, USA.

I8. **B. Coasne**, "Pressure effects in nanoconfined phases". *5th Biot Conference on Poromechanics*, Vienna, Austria (2013).

I7. **B. Coasne**, "Adsorption and transport in hierarchical zeolites: the view from the nanoscale". *2nd Worskshop on Zeolites*, Caen, France (2013).

I6. B. Coasne, Adsorption and dynamics of ions confined in nanopores: from simple ions to ionic liquids, *CECAM Workshop on Aging of Materials*, Zurich, Switzerland (2012).

I5. **B. Coasne**, "Surface chemistry and performance of carbon materials". *Surface Chemistry and Performance of Carbon materials*, Budapest, Hungary (2012).

I4. **B. Coasne**, "Adsorption and dynamics of water and ions in nanopores". *32nd International Conference on Solution Chemistry*, La Grande Motte, France (2011).

I3. **B. Coasne**, "Simulation moléculaire de l'adsorption et confinement de fluides dans des adsorbants microporeux et mesoporeux". *26e Réunion du Groupe Français des Zéolithes*, Presqu'ile de Giens, France (2010).

I2. B. Coasne, "Development of realistic models of MCM-41 materials for gas adsorption studies". *CECAM Workshop on Surfactant Templated Porous Materials: Synthesis and Characterisation*, Zurich, Switzerland (2008).

I1. B. Coasne, "Transition de phase dans des matériaux nanoporeux". *Matériaux Hybrides Organisés Multifonctionnels (HMOM)*, La Grande Motte, France (2006).

5. Oral communications in conferences (178)

O178. N. Ben Amor, D. Bauer, B. Braconnier, B. Coasne, The Physical Chemistry of PFAS near Surfaces: From the fundamentals of adsorption to Lattice Boltzmann simulations, *Journées de l'Association Française de l'Adsorption*, Nantes, France (2025).

O177. L. Ngoc Ho, A. Lesage, A. Rossini, D. Farrusseng, B. Coasne, Impact of Gas Oversolubility on the Thermodynamics and Transport of Fluids Confined in Nanoporous Materials, *Fundamentals of Adsorption 15*, Porto, Portugal (2025).

O176. L. Didier, A. Sam, R. Venegas, B. Coasne, Acoustic Response of Fluid Adsorption in Nanoporous Materials, *Fundamentals of Adsorption 15*, Porto, Portugal (2025).

O175. S. Gravelle, B. Coasne, Separation of water and ethanol mixtures by nanoporous organosilica: a molecular dynamics study, *French/German Adsorption Conference*, Strasbourg, France (2023).

O174. L. Didier, A. Sam, R. Venegas, B. Coasne, Molecular simulation of fluid adsorption in nanoporous materials, *French/German Adsorption Conference*, Strasbourg, France (2023).

O173. W. Kellouai, P. Judeinstein, M. Plazanet, B. Coasne, Adsorption and Transport in Zeolitic Materials, *9th Conference of the Federation of the European Zeolite Associations*, Portorož-Portorose, Slovenia (2023).

O172. A. Schlaich, D. Jin, L. Bocquet, B. Coasne, Wetting and phase transitions of ionic liquids at metal surfaces: Elec-tronic screening using a virtual Thomas–Fermi, *Journées de l'Association Française de l'Adsorption*, Nancy, France (2023).

O171. A. Schlaich, D. Jin, L. Bocquet, B. Coasne, Wetting and phase transitions of ionic liquids at metal surfaces: Elec-tronic screening using a virtual Thomas–Fermi, *Fundamentals of Adsorption 14*, Broomfield, CO, USA (2022).

O170. B. Coasne, Confinement de fluides dans des matériaux nanoporeux, *Journée des utilisateurs GRICAD*, Grenoble, France (2021).

O169. M. Chen, B. Coasne, R. Guyer, D. Derome, J. Carmeliet, Where lies hysteresis in materials undergoing sorption-induced swelling?, *POROTEC*, Germany (2019).

O168. A. Gossard, B. Coasne, M. Nidal Ben Abdelouahab, P. Coussot, Drying thanks to nano-films?, *INTERPORE* 2019, Valencia, Spain (2019).

O167. A. Schlaich, B. Coasne, Coupling of Adsorption and Transport in Hierachical Porous Materials, *INTERPORE* 2019, Valencia, Spain (2019).

O166. M. Bah, E. D. Manga, P. da Costa, M. Drobek, A. Ayral, G. Despaux, E. Le Clezio, A. Julbe, B. Coasne, Acoustic Footprint of Gas Permeation through Porous Materials, *Groupe Français des Zéolithes* 2019, Ile de Porquerolles, France (2019).

O165. D. Jin, B. Coasne, Phase Stability and Formation Kinetics of Methane Hydrate in Nanoporous Media, *Fundamentals of Asdorption* 2019, Cairns, Australia (2019).

O164. Z. Zaafouri, B. Coasne, G. Batot, C. Nieto-Draghi and D. Bauer, TRT-Lattice Boltzmann simulation of transport and adsorption in porous media, *14th World Congress in Computational Mechanics (WCCM)*, Paris, France (2019).

O163. I. C. Medeiros-Costa, C. Laroche, J. Perez-Pellitero, B. Coasne, Advanced characterization of hierarchical zeolites for optimal xylene separation, *Materials, Characterization, and Catalysis Workshop*, Zurich, Switzerland (2018).

O162. B. Coasne, Transport as a tool to characterize multiscale porous media, *8th International Workshop on Characterization of Porous Materials: From Ångströms to Millimeters*, Delray Beach, FL (2018).

O161. M. Bah, E.D. Manga, M. Drobek, E. Le Clezio, G. Despaux, P. Da Costa, A. Ayral, B. Coasne, A. Julbe, Acoustic emission monitoring: A novel diagnostic tool for characterization of porous ceramic membranes during gas permeation, Keynote Oral presentation, *15th International Conference on Inorganic Membranes*, Dresden, Germany (2018).

O160. I. C. Medeiros Costa, C. Laroche, J. Perez-Pellitero, B. Coasne, Advanced characterization of hierarchical zeolites for optimal xylene separation, American Institute of Chemical Engineering, Pittsburgh, PA, USA (2018).

O159. C. Zhang, B. Coasne, D. Derome, J. Carmeliet, Hygro-thermo-mechanical behavior of softwood lignin studied by molecular dynamics, EMI 2018, Boston, MA, USA (2018).

O158. A. C. Bueno, L. Roiban, B. Coasne, Y. Schuurman, M. Klotz, D. Farrusseng, Materials with oriented hierarchical porosity as catalyst support, *12th International Symposium on the Scientific Bases for the Preparation of Heterogeneous Catalysts*, Louvain-la-neuve, Belgium (2018).

O157. M. Chen, B. Coasne, R. Guyer, D. Derome, J. Carmeliet, Origin of sorption hysteresis of micro-porous polymers: an explanation based on hydrogen bonds, *Interpore 10th Annual Meeting*, New Orleans, LA, USA (2018).

O156. D. Jin, B. Coasne, Effects of Confinement and Surface Force on Methane Hydrate in Porous Media, *Interpore 10th Annual Meeting*, New Orleans, LA, USA (2018).

O155. B. Coasne, Adsorption and Transport in Multiscale Porous Media, *Interpore 10th Annual Meeting*, New Orleans, LA, USA (2018).

O154. M. Bah, E. D. Manga, M. Drobek, E. Le Clezio, G. Despaux, P. Da-Costa, B. Coasne, A. Ayral, A. Julbe, L'émission acoustique comme outil de diagnostic en temps réel lors de la perméation gazeuse au travers de membranes céramiques poreuses, *Journées du Groupe Français de la Céramique 2018*, Bordeaux, France (2018).

O153. I. C. Medeiros Costa, C. Laroche, J. Perez-Pellitero, B. Coasne, Advanced characterization of hierarchical zeolites for optimal xylene separation, ZMPC2018 - International Symposium on Zeolites and Microporous Crystals, Yokohama, Japan (2018).

O152. M. Chen, B. Coasne, R. Guyer, D. Derome, J. Carmeliet, A comparative study on sorption-induced deformation and related hysteresis of micro- and meso-porous materials, EMI 2018, Boston, MA, USA (2018).

O151. M. Chen, B. Coasne, R. Guyer, D. Derome, J. Carmeliet, A multi-scale study of sorption-induced swelling of wood and related hysteresis, Eighteenth European Conference on Composite Materials (ECCM 18), Athens, Greece (2018).

O150. C. Hadji, C. Latargez, B. Coasne, H. Bodiguel, B. Dollet, E. Lorenceau, Thin liquid films for gas separation, EUFOAM 2018, Liege, Belgium (2018).

O149. P. Judeinstein, M. Maréchal, L. Noirez, B. Coasne, Ionic liquids: the prepeak paradox, *Journées de la Matière Condensée 2018*, Grenoble, France (2018).

O148. Z. Zaafouri, B. Coasne, G. Batot, C. Nieto-Draghi, D. Bauer, Influence of adsorption on transport in flow conditions, *14emes Journées d'Etude des Milieux Poreux*, Nantes, France (2018).

O147. I. C. Medeiros Costa, C. Laroche, J. Perez-Pellitero, B. Coasne, Advanced characterization of hierarchical zeolites for optimal xylene separation, American Institute of Chemical Engineers, Pittsburgh, PA, USA (2018).

O146. M. Chen, B. Coasne, R. Guyer, D. Derome, J. Carmeliet, Analysis of Sorption and Mechanical Hysteresis of Nano-Porous Materials Upscaling Molecular Simulations by Dependent Domain Theory, *6th Biot Conference on Poromechanics*, Paris, France (2017).

O145. M. Lépinay, L. Broussous, C. Licitra, F. Bertin, V. Rouessac, A. Ayral, B. Coasne, Better characterization of microporous organosilica films through combining ellipsometric porosimetry and molecular simulation, *11th International Symposium on the Characterization of Porous Solids*, Avignon, France (2017).

O144. M. Chen, B. Coasne, R. Guyer, D. Derome, J. Carmeliet, Coupling behavior between adsorption and deformation of nano-porous materials: a multiscale study, *9th International Conference on Porous Media*, Rotterdam, Netherlands (2017).

O143. M. Chen, K. Kulasinski, B. Coasne, Guyer, R., D. Derome, J. Carmeliet, Multiscale modeling of adsorption-induced deformation of micro-porous materials, *Engineering Mechanics Institute Conference 2016*, Nashville, TN, USA (2016).

O142. A. Galarneau, F. Fajula, F. Guenneau, A. Gedeon, B. Coasne, Adsorption and transport in hierarchical microporous/mesoporous materials, *Fundamentals of Adsorption 12*, Lake Constance, Germany (2016).

O141. S. Hocine, B. Siboulet, R. Hartkamp, B. Coasne, M. Duvail, J. F. Dufreche, Adsorption along the alkali series on silica surfaces : reversal of adsorption selectivity with pH studied with molecular dynamics, *5emes Journées de l'Association Française de l'Adsorption*, Paris, France (2016).

O140. A. Obliger, R. J. M. Pellenq, F. J. Ulm, B. Coasne, Adsorption effects on transport of hydrocarbon mixtures in disordered nanoporous media, *Fundamentals of Adsorption 12*, Lake Constance, Germany (2016).

O139. L. Broussous, M. Lépinay, B. Coasne, C. Licitra, V. Rouessac, A. Ayral, Molecular simulation contribution to porous low-k pore size determination after damage by etch and wet clean processes, *Symposium on Ultra Clean Processing of Semiconductor Surfaces*, Knokke-Heist, Belgium (2016).

O138. R. Pellenq, A. Obliger, B. Coasne, F. Ulm, The texture-transport properties relation in kerogen phases, *Carbon 2016*, State College PA, USA (2016).

O137. P. Judeinstein, M. Zeghal, B. Coasne, Nanostructured lyotropic electrolytes based on ionic liquid, *2016 Materials Research Society Fall Meeting*, Boston, MA, USA (2016).

O136. B. Coasne, Adsorption and Transport in Hierarchical Porous Materials, *Workshop Rational Design for Improved Functionalities of Porous Inorganic Materials*, Cavaillon, France (2016).

O135. C. Bousige, F. J. Ulm, R. Pellenq, B. Coasne, Realistic molecular model of mature and immature kerogens in organic-rich shales, *Engineering Mechanics Institute Conference – 2015* (EMI 2015), Stanford, CA, USA (2015).

O134. L. Brochard, G. Hantal, R. Pellenq, F. –J. Ulm, B. Coasne, Upscaling molecular simulations of failure through size effects, *Engineering Mechanics Institute Conference – 2015* (EMI 2015), Standford, CA, USA (2015).

O133. T. Lee, B. Coasne, R. Pellenq, F. J. Ulm, L. Bocquet, Retarded desorption from porous media caused by wetting/dewetting of the external surface, *American Physical Society* APS 2015, San Antonio, TX, USA (2015).

O132. L. Bocquet, T. Lee, B. Coasne, Retarded desorption from porous media caused by wetting/dewetting of the external surface, *Low permeability media and nanoporous materials from characterisation to modelling*, Paris, France (2015).

O131. B. Coasne, K. Falk, R. Pellenq, F. J. Ulm, L. Bocquet, Subcontinuum mass transport of condensed hydrocarbons in nanoporous media, *Low permeability media and nanoporous materials from characterisation to modelling*, Paris, France (2015).

O130. L. Broussous, M. Lépinay, B. Coasne, C. Licitra, F. Bertin, V. Rouessac, A. Ayral, Contribution of Molecular Simulation to the characterization of porous low-k materials, *Materials for Advanced Metallization Conference MAM2015*, Grenoble, France (2015).

O129. F. G. Alabarse, J. Rouquette, **B. Coasne**, A. Haidoux, C. Paulmann, O. Cambon, J. Haines, Mechanism of H_2O Insertion and Chemical Bond Formation in $AlPO_4$-54.xH_2O at high pressure, *Joint AIRAPT-25 & EHPRG-53 International Conference On High Pressure Science And Technology*, Madrid, Spain (2015).

O128. J. Haines, J. M. Thibaud, F. Alabarse, J. Rouquette, P. Hermet, O. Cambon, B. Coasne, F. Di Renzo, A. Van der Lee, D. Scelta, M. Ceppatelli, K. Dziubek, F. Gorelli,

R. Bini, M. Santoro, Use of Fourier Maps to Study High Pressure Guest Insertion and Polymerization in Zeolites, *2015 IUCr High-Pressure Workshop*, Campinas, Brazil (2015).

O127. P. Judeinstein, M. Zeghal, B. Coasne, Electrolytes nanostructurés lyotropes à base de liquides ioniques, *Systèmes Anisotropes Auto-organisés CFCL 2015*, Autrans, France (2015).

O126. M. Zeghal, P. Judeinstein, B. Coasne, Nanostructured lyotropic electrolytes based on ionic liquids, *Juelich Soft Matter Days 2015*, Juelich, Germany (2015).

O125. B. Coasne, Le kérogène, un charbon poreux?, *Journée de réflexion « Gaz et huiles de schiste, leur exploitation : concepts fondamentaux et verrous technologiques »*, Paris, France (2014).

O124. L. Deliere, S. Topin, J.P. Fontaine, C. Daniel, Y. Schuurman, **B. Coasne**, D. Farrusseng, Capture du xenon à l'aide de zéolithe Ag-ZSM-5, *2emes Journées de l'Association Française de l'Adsorption*, Paris, France (2014).

O123. M. Lépinay, **B. Coasne**, L. Broussous, K. Courouble, C. Licitra, François Bertin, Vincent Rouessac, André Ayral, Expérience et simulation moléculaire de l'adsorption de solvants sur des surfaces de silice fonctionnalisées, *2emes Journées de l'Association Française de l'Adsorption*, Paris, France (2014).

O122. P. Billemont, **B. Coasne**, G. De Weireld, Etude expérimentale et simulation moléculaire de l'adsorption du CO_2, CH_4 et de leurs mélanges dans des structures carbonées nano poreuse en présence d'eau : influence de la chimie de surface, *2emes Journées de l'Association Française de l'Adsorption*, Paris, France (2014).

O121. C. Bousige, **B. Coasne**, R. Pellenq, Building realistic models of kerogen using hybrid reverse Monte Carlo simulations, *Carbon 2014*, Jeju Island, Korea (2014).

O120. K. I. Falk, R. Pellenq, F. J. Ulm, L. Bocquet, **B. Coasne**, Hydrocarbon transport through porous carbons: on the validity of Darcy's law, *Nanoporous Materials – 7*, Niagara Falls, Canada (2014).

O119. P. Billemont, G. De Weireld, **B. Coasne**, Adsorption of carbon dioxide, methane, and their mixture in porous carbons in the presence of water, *Carbon 2014*, Jeju Island, Korea (2014).

O118. K. I. Falk, R. Pellenq, F. J. Ulm, L. Bocquet, **B. Coasne**, Hydrocarbon transport through porous carbons: on the validity of Darcy's law, *Carbon 2014*, Jeju Island, Korea (2014).

O117. L. Deliere, S. Topin, J. P. Fontaine, C. Daniel, Y. Schuurman, **B. Coasne**, D. Farrusseng, Capture du xenon dans une zeolithe Ag-ZSM-5, *30e Réunion du Groupe Français des Zéolithes*, Ile de Ré, France (2014).

O116. A. Botan, F. J. Ulm, R. J. M. Pellenq, **B. Coasne**, A bottom up model of adsorption and transport in multiscale porous media, *6th International Conference on Porous Media and Annual Meeting of the International Society for Porous Media*, Milwaukee, WI, USA (2014).

O115. R. Hartkamp, **B. Coasne**, Adsorption and transport of ions confined in realistic porous materials: from simple to radioactive ions, *Adsorption of Ions at Solid-Electrolyte Interfaces*, Leiden, The Netherlands (2014).

O114. F. Villemot, A. Galarneau, **B. Coasne**, Adsorption and Dynamics in Hierarchical Metal Organic Frameworks, *Nanoporous Materials – 7*, Niagara Falls, Canada (2014).

O113. G. Ori, F. Villemot, L. Viau, A. Vioux, C. Massobrio, **B. Coasne**, Hybrid Materials made up of Ionic Liquids Confined in Porous Silica and Chalcogenide, *Nanotech Advanced Materials and Applications*, Washington, DC, USA (2014).

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O111. G. Ori, M. Celino, C. Massobrio, **B. Coasne**, Surface properties of amorphous nanoporous GeS2, *Nanotech Advanced Materials and Applications*, Washington, DC, USA (2014).

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C10. N. Fekkar-Nemmiche, S. Devautour-Vinot, **B. Coasne**, F. Henn, A. Mehdi, C. Reye, R. Corriu, "Water dynamics in silica nanopores from conductivity measurements: Effect of the surface chemistry". *9th International Conference on Dielectric and Related Phenomena*, Poznan, Poland (2006).

C9. B. Ratajczak, M. Sliwinska-Bartkowiak, **B. Coasne**, K. E. Gubbins, "Apparent critical point in binary mixtures: Experimental and simulation study". *US – Poland Workshop on Nanoscience and Nano-Structured Materials*, Poznan, Poland (2006).

C8. B. Ratajczak, **B. Coasne**, M. Sliwinska-Bartkowiak, "Apparent critical point in binary mixtures m-nitrotoluene with n-alkanes: Experimental and simulation study". *9th International Conference on Dielectric and Related Phenomena*, Poznan, Poland (2006).

C7. M. sliwinska-Bartkowiak, M. Jazdzewska, F. R. Hung, **B. Coasne**, K. E. Gubbins, "Freezing of CCl_4 within carbon nanotubes: a combined experimental and simulation approach". *Thermodynamics 2005*, Sesimbra, Portugal (2005).

C6. B. Coasne, J. Czwartos, K. E. Gubbins, F. R. Hung, M. Sliwinska-Bartkowiak, "Confinement Effect on Freezing of Binary Mixtures". *7th international symposium on the characterization of porous solids*, Aix-en-Provence, France (2005).

C5. S. Bhattacharya, **B. Coasne**, F. R. Hung, K. E. Gubbins, "Modeling and Characterization of Triblock Surfactant Templated Mesoporous Silicas". *7th international symposium on the characterization of porous solids*, Aix-en-Provence, France (2005).

C4. G. Maurin, **B. Coasne**, A. Nicolas, S. Devautour-Vinot, J. C. Giuntini, F. Henn, "Effect of water adsorption on thermodynamics and dynamics of the extra-framework cations in zeolite systems". *Diffusion Fundamentals: Experiment and Application*, Leipzig, Germany (2005).

C3. F. R. Hung, **B. Coasne**, K. E. Gubbins, F. R. Siperstein, M. Sliwinska-Bartkowiak, "Effect of confinement on freezing in cylindrical pores". *8th International Conference on Fundamentals of Adsorption*, Sedona, USA (2004).

C2. B. Coasne, A. Grosman, C. Ortega, "Study of capillary condensation hysteresis in mesoscopic pores: Comparison between adsorption in P + type porous silicon and adsorption in SBA". *6th international symposium on the characterization of porous solids*, Alicante, Spain (2002).

C1. B. Coasne, A. Grosman, N. Dupont-Pavlovsky, C. Ortega, M. Simon, "Adsorption in an ordered and non-interconnected mesoporous material: Single crystal silicon". *International discussion meeting on Physical Chemistry in Confining Geometries*, Berlin, Germany (2000).

7. Seminars, practical schools (85)

S85. B. Coasne, Molecular Modeling in Soft Matter, *ILL Soft Matter School*, Institute Laue Langevin, Grenoble, France (2025).

S84. B. Coasne, Molecular Simulation and Theory of Adsorption and Transport in Nanoporous Materials, *Labo PIC [ESPCI + Total Energies]*, Pau, France (2025).

S83. B. Coasne, Molecular Simulation and Theory of Adsorption and Transport in Nanoporous Materials, *Saint-Gobain Research (SGR)*, Paris, France (2024).

S82. B. Coasne, Confinement and wetting in nanoporous metallic materials, *n-AQUA project*, Cambridge, UK (2024).

S81. B. Coasne, Theory and molecular simulation of gas adsorption and transport in nanoporous materials, *International Adsorption Society Webinar Series*, USA (2023). [visio-conference]

S80. B. Coasne, Adsorption in Metallic Nanoporous Materials, *Univ. Maryland*, Bethesda (Washington), USA (2023). [visioconference]

S79. B. Coasne, Adsorption and Transport in Nanoporous Materials, *Commission Scientifique LOCIE*, Chambéry, France (2023).

S78. B. Coasne, Diffusion and transport in nanoporous materials, *TOTAL Energies*, Pau, France (2023).

S77. B. Coasne, Adsorption et transport de fluides dans des matériaux nanoporeux, *Séminaire donné dans le cadre de la Chaire Innovation du Collège de France (Pr. Lydéric Bocquet)*, Collège de France, Paris, France (2023).

S76. B. Coasne, Adsorption and confinement in nanoporous materials, *TOTAL Energies*, Pau, France (2022).

S75. B. Coasne, Transport dans les matériaux poreux: de l'échelle nanométrique au milieu continu, *TEC21*, Grenoble, France (2022).

S74. "Fluid Adsorption and Transport in Nanoporous Materials", *Manchester University*, Manchester, UK (March 01, 2021). On-line seminar due to COVID-19.

S73. "Fluid Adsorption and Transport in Nanoporous Materials", *Univ. Caen/ENSICAEN*, Caen, France (Feb. 02, 2021).

S72. "Adsorption and Transport in Subnanoporous Media: Theory and Molecular Modeling", *ETH Zurich*, Zurich, Switzerland (February 18, 2020).

S71. "Adsorption and Transport in Multiscale Porous Media", *Oslo University*, Oslo, Norway (August 29, 2019).

S70. "Physique des Gaz de Schiste: Une Vision Moléculaire", *Université François Rabelais de Tours*, Tours, France (March 22, 2018).

S69. "Adsorption and Transport in Multiscale Porous Media", *Université Franche Comté*, Besançon, France (February 12, 2018).

S68. "Adsorption dans les matériaux poreux multiéchelles", *Institut de Chimie et des Matériaux de Paris Est*, Thiais, France (January 13, 2017).

S67. "Adsorption and Transport in Multiscale Porous Media", *Freie Universitat*, Berlin, Germany (February 15, 2017).

S66. "Adsorption and Transport in Multiscale Porous Media", *Laboratoire Charles Coulomb*, Montpellier, France (April 18, 2017).

S65. "Adsorption and Transport in Multiscale Porous Media", *New Jersey Institute of Technology*, Newark, NJ, USA (November 06, 2017).

S64. "Adsorption et transport multiéchelles dans les matériaux poreux", *Science et Ingénierie des Matériaux et Procédés*, Grenoble, France (March 24, 2016).

S63. "Adsorption et transport multiéchelles dans les matériaux poreux", *Institut de Physique de Rennes*, Rennes, France (June 06, 2016).

S62. "Adsorption and transport in multiscale porous materials", *IFPEN Rueil Malmaison*, Rueil Malmaison, France (September 22, 2016).

S61. "Adsorption and condensation in porous materials : The view from the nanoscale", *ST Microelectronics*, Crolles-Grenoble, France (October 05, 2016).

S60. "Adsorption and Transport in Multiscale Porous Media", *Montanuniversitaet Leoben*, Leoben, Austria (December 12, 2016).

S59. "Adsorption et transport multiéchelles dans les solides poreux", *Saint Gobain CREE*, Cavaillon, France (February 12, 2015).

S58. "Multiscale Adsorption and Transport in Porous Media", *IBM Almaden Research Center*, San Jose, CA, USA (June 16, 2015).

S57. "Caractérisation des milieux poreux", *Saint Gobain CREE*, Cavaillon, France (October 02, 2015).

S56. "Freezing in porous materials: the view from the nanoscale", Heriot-Watt University, School of Engineering and Physical Sciences, Edinburgh, Scotland, UK (Janvier 15, 2014).

S55. "Adsorption and transport in porous materials: the view from the nanoscale", Gaztransport & Technigaz, Paris, France (May 12, 2014).

S54. "Adsorption and freezing in porous media: the view from the nanoscale", *3rd Practical Summer School of Labex Chemisyst – Fondation Balard*, Montpellier, France (Sep. 17-19, 2014).

S53. "Adsorption et transport dans les solides poreux hierarchises", *IFP – Energies Nouvelles*, Solaize, France (Sep. 26, 2014).

S52. "Adsorption et transport dans les solides poreux hierarchises", *Laboratoire de Physique Interdisciplinaire de Physique (LIPHY)*, Universite Joseph Fourier, Grenoble, France (Oct. 02, 2014).

S51. "Multiscale Modeling of Amorphous Porous Materials", *Workshop « Materials Modeling »*, Institut Physique Chimie des Matériaux de Strasbourg, Université Strasbroug, France (Oct. 03, 2014).

S50. "Adsorption and transport of simple fluids and ionic liquids in porous media", *Laboratoire Leon Brillouin*, CNRS et CEA Saclay, France (Dec. 10, 2014).

S49. "Adsorption and transport in porous materials", *ETH - EMPA*, Zurich, Switzerland (May 08, 2013).

S48. " Adsorption and transport in porous materials", *CEA Bruyeres le Chatel*, Arpajon, France (June 03, 2013).

S47. "Molecular simulation of adsorption and dynamics in nanopores", *2nd Practical Summer School of Labex Chemisyst – Fondation Balard*, Montpellier, France (Jul 04, 2013).

S46. "Approche moléculaire de l'adsorption et du transport dans des matériaux poreux", Saint Gobain CREE, Cavaillon, France (September 25, 2013).

S45. "Adsorption et transport dans les matériaux poreux hiérarchisés", LASIR, Lille, France (September 26, 2013).

S44. "Freezing in porous materials: the view from the nanoscale", Princeton University, Civil and Environmental Engineering, Princeton, NJ, USA (October 07, 2013).

S43. "Molecular simulation of adsorption and dynamics in nanoporous solids", ETH - EMPA, Zurich, Switzerland (January 20, 2012).

S42. "High pressure effects in nanoconfined phases", Laboratoire Charles Coulomb (L_2C), Montpellier, France (February 20, 2012).

S41. "High pressure effects in nanoconfined phases", Laboratoire Physicochimie des Electrolytes, Colloïdes et Sciences Analytiques (PECSA), Université Pierre et Marie Curie, France (April 24, 2012).

S40. "Simulation et modélisation de la dynamique et du transport dans des nanomembranes", Journées Avenir de la fillière membranaire en Languedoc-Roussillon, Pole de Compétitivité TRIMATEC Languedoc-Roussillon, France (April 26, 2012).

S39. "High pressure effects in nanoconfined phases", Département de Chimie, Ecole Normale Supérieure de Lyon, France (June 01, 2012).

S38. "High pressure effects in nanoconfined phases", Institut Physique Chimie des Matériaux de Strasbourg, Université Strasbroug, France (June 28, 2012).

S37. "Molecular simulation of adsorption and dynamics of solvents and ions in nanopores", *1st Practical Summer School of Labex Chemisyst – Fondation Balard*, Montpellier/Cevennes, France (2012).

S36. "Simulation de l'adsorption et de la diffusion de molécules dans des solides poreux", Institut de Science des Matériaux de Mulhouse, Mulhouse, France (April 28, 2011).

S35. "Apport de la modélisation moléculaire à l'étude des matériaux", Journée Scientifique Pole Chimie Balard / Saint Gobain, Montpellier, France (Juin 24, 2011).

S34. "Adsorption and dynamics of water and ions confined in nanopores", *6th European Practical School of Separation and Analytical Chemistry of Marcoule*, Marcoule, France (July 2011).

S33. "Modelisation moleculaire multi-échelle des matériaux: propriétés physiques, chimiques et structurales", Saint Gobain CREE, Cavaillon, France (September 09, 2011).

S32. "Le gel de l'eau dans les mésopores du ciment", *Ecole thématique Physique, Chimie et Mécanique des matériaux cimentaires*, La Grande Motte, France (2011).

S31. "Apport de la simulation moléculaire à l'étude des solides poreux", Institut de Recherches sur la Catalyse et l'Environnement (IRCELyon), Lyon, France (April 26, 2010)

S30. "Apport de la simulation moléculaire à l'étude des solides poreux", Laboratoire de Chimie de la Matière Condensée de Paris, Paris, France (May 19, 2010)

S29. "Théorie et modélisation moléculaire: de la molécule au matériau en passant par les architectures moléculaires", *Journée d'échange scientifique entre l'ICGM et l'ICSM*, Marcoule, France (2010).

S28. "Adsorption, freezing and dynamics of fluids confined in nanoporous materials", Department of Chemistry and Biochemistry, University of Maryland, College Park, MD, USA (October 12, 2010)

S27. "Apport de la modélisation moléculaire aux sciences des matériaux", Saint Gobain CREE, Cavaillon, France (July 02, 2009).

S26. Theory and molecular modeling of transport in nanoporous membranes, *4th European Practical School of Separation Chemistry*, Marcoule, France (2009).

S25. Théorie et modélisation moléculaire: de la molécule au matériau en passant par les architectures moléculaires, *Conseil Scientifique de l'Institut Charles Gerhart Montpellier*, Montpellier, France (2009).

S24. "Modélisation moléculaire de l'adsorption, intrusion, structure et dynamique de fluides dans des nanopores", Faculté Polytechnique de Mons, Mons, Belgique (November 17, 2009).

S23. "Adsorption et dynamique de liquides complexes confinés dans des nanopores", Centre Interdisciplinaire des Nanosciences de Marseille, Marseille, France (November 24, 2009)

S22. "Freezing in nanoporous materials", Department of Chemical and Biomolecular Engineering, North Carolina State University, Raleigh, NC, USA (December 05, 2008).

S21. "Solidification et structure de fluides confinés dans des nanopores", Laboratoire de Physique Théorique, CNRS - Université Paul Sabatier/Toulouse (February 20, 2007).

S20. "Modélisation moléculaire de l'adsorption et intrusion de fluides dans un milieu nanoporeux", Matériaux Divisés, Revêtements, ELectrocéramiques MADIREL, CNRS - Université de Provence (October 11, 2007).

S19. "Modélisation moléculaire de l'adsorption et intrusion de fluides dans un milieu nanoporeux", Laboratoire de Physique de la Matière Condensée et Nanostructures, CNRS – Université Claude Bernard Lyon I (October 12, 2007).

S18. "Molecular modeling of adsorption and intrusion in nanoporous materials", Institute of Physics, Adam Mickiewicz University, Poznan, Poland (October 17, 2007).

S17. "Molecular modeling of adsorption and intrusion in nanoporous materials", Institute of Chemistry, Stranski Laboratory of Physical and Theoretical Chemistry, Technische Universitat Berlin, Berlin, Germany (December 11, 2007).

S16. "Transitions de phase de fluides confinés dans des matériaux nanoporeux", Laboratoire de Chimie Physique, CNRS - Université de Paris-Sud Orsay (January 13, 2006).

S15. "Transitions de phase de fluides confinés dans des matériaux nanoporeux", Séminaire Ecole doctorale, CNRS - Université Montpellier 2 (January 19, 2006).

S14. "Cristallisation dans un milieu poreux", Workshop sur la cristallisation en milieu confiné, Centre de Recherche en Matière Condensée et Nanosciences, CNRS – Marseille (September 08, 2006).

S13. "Transitions de phase de fluides confinés dans des matériaux nanoporeux", Laboratoire des Colloides, Verres et Nanomatériaux, CNRS - Université Montpellier 2 (November 09, 2006).

S12. "Molecular simulation of phase transitions in nanoporous materials", Institute of Organic Chemistry and Biochemistry, Center for Complex Molecular Systems and Biomolecules, Prague, Czech Republic (September 17, 2005).

S11. "Molecular simulation of phase transitions in nanoporous materials", Institute of Physics, Adam Mickiewicz University, Poznan, Poland (September 23, 2005).

S10. "Etude expérimentale et par simulation moléculaire des transitions de phase dans un milieu nanoporeux", Laboratoire de Chimie de l'école normale supérieure de Lyon (December 09, 2003).

S9. "Etude expérimentale et par simulation moléculaire des transitions de phase dans un milieu nanoporeux", Laboratoire Environnement et Minéralurgie, CNRS/INPL (December 11, 2003).

S8. "Etude expérimentale et par simulation moléculaire des transitions de phase dans un milieu nanoporeux", Laboratoire de Physique Moléculaire, CNRS - Université de Franche Comté (December 12, 2003).

S7. "Etude expérimentale et par simulation moléculaire des transitions de phase dans un milieu nanoporeux", Laboratoire de Physico-chimie de la Matière Condensée, CNRS - Université de Montpellier II (December 15, 2003).

S6. "Etude expérimentale et par simulation moléculaire des transitions de phase dans un milieu nanoporeux", Matériaux Divisés, Revêtements, ELectrocéramiques MADIREL, CNRS - Université de Provence (December 17, 2003).

S5. "Etude expérimentale et par simulation moléculaire des transitions de phase dans un milieu nanoporeux", Laboratoire de Chimie Physique, CNRS - Université de Paris-Sud Orsay (December 18, 2003).

S4. "Etude expérimentale et par simulation moléculaire des transitions de phase dans un milieu nanoporeux", Laboratoire de Physique de la Matière Condensée et Nanostructures, CNRS – Université Claude Bernard Lyon I (December 19, 2003).

S3. "Etude de la physisorption/ condensation de gaz dans un matériau mésoporeux", Centre de Recherche sur la Matière Divisée CRMD, CNRS - Université d'Orléans (June 28, 2002).

S2. "Apport des simulations Monte Carlo dans l'ensemble Grand Canonique à l'étude de la physisorption/condensation de gaz dans un matériau mésoporeux", Laboratoire de Physique Moléculaire, CNRS - Université de Franche Comté (December 10, 2002).

S1. "Adsorption dans des pores non interconnectés ouverts à une ou deux extrémités: origine de l'irréversibilité du phénomène de condensation capillaire", Matériaux Divisés, Revêtements, ELectrocéramiques MADIREL, CNRS - Université de Provence (March 04, 2001).

8. Participations à des ouvrages ou revues spécialisés (9)

D9. Interview par D. Larousserie/Le Monde, « Lydéric Bocquet, un physicien qui porte haut l'art du ricochet (portrait) », (Le Monde 08/04/2023).
D8. D. Bauer, **B. Coasne**, Simulation du couplage adsorption/transport via une approche Lattice-Boltzmann, Science@IFPEN, Lettre actualité IFP Energies Nouvelles (2023).
D7. D. Farrusseng, **B. Coasne**, Les matériaux nanoporeux: de l'utilité des trous en chimie des matériaux, « Etonante Chimie », Editions CNRS (2020).
D6. D. Farrusseng, **B. Coasne**, Les matériaux poreux « Metal Organic Frameworks », Revue Usine Nouvelle (2020).
D5. C. Bousige, C. Matei Ghimbeu, C. Vix-Guterl, A. E. Pomerantz, A. Suleimenova, G. Vaughan, G. Garbarino, M. Feygenson, C. Wildgruber, F. -J. Ulm, R.J.-M. Pellenq, **B. Coasne**, Revealing the molecular structure of kerogen in gas shale, *2016 ESRF Highlights*, Matter at Extremes, 124-125 (2017).
D4. J. M. Sobstyl, M. J. Abdolhosseini, **B. Coasne**, R. J. M. Pellenq, F. J. Ulm, Energy *management : city texture matters*, *Concrete Sustainability Hub MIT*, Reasearch Profile Letter October (2012).
D3. P. A. Bonnaud, **B. Coasne**, R. J. M. Pellenq, L*e* gel de l'eau dans les mésopores du ciment, *Ciments, Bétons, Plâtres et Chaux* 907, 64 (2012).
D2. B. Coasne, Le triplement du nucléaire doit être débattu, *L'Express* (Edition Web), Mar. 12 (2010), http://www.lexpress.fr/actualite/environnement/le-triplement-du-nucleaire-doit-etre-debattu_854755.html
D1. E. Bousquet, **B. Coasne**, Nous comprenons les consommateurs d'eau en bouteilles, *L'Express* (Edition Web), Mar. 12 (2010), http://www.lexpress.fr/actualite/environnement/nous-comprenons-les-consommateurs-d-eau-en-bouteilles_854256.html