

## Publications with reference to Bil

### Peer-reviewed journal papers

**Yujiong Chen, Jean-Baptiste Champenois, Patrick Dangla, Sylvie Granet, Joseph Lautru, Arnaud Leclerc, and Geoffroy Melot.** Investigation of bituminized waste products swelling behavior due to water uptake under confined leaching conditions: Experiments and modeling. *International Journal for Numerical and Analytical Methods in Geomechanics*, 49(3):877-894, 2025: [doi.org/10.1002/nag.3902](https://doi.org/10.1002/nag.3902).

**Yujiong Chen, Jean-Baptiste Champenois, Patrick Dangla, Sylvie Granet, Joseph Lautru, Arnaud Leclerc, and Geoffroy Melot.** Investigation of bituminized waste products swelling behavior due to water uptake under free leaching conditions: Experiments and modeling. *International Journal for Numerical and Analytical Methods in Geomechanics*, 47(18):3351–3380, 2023: [doi.org/10.1002/nag.3624](https://doi.org/10.1002/nag.3624).

**Yushan Gu, Patrick Dangla, Renaud-Pierre Martin, Othman Omikrine Metalssi, and Teddy Fen-Chong.** Modeling the sulfate attack induced expansion of cementitious materials based on interface-controlled crystal growth mechanisms. *Cement and Concrete Research*, 152:106676, 2022: [doi.org/10.1016/j.cemconres.2021.106676](https://doi.org/10.1016/j.cemconres.2021.106676).

**Bo Ran, Kefei Li, Teddy Fen-Chong, Othman Omikrine-Metalssi, and Patrick Dangla.** Spalling rate of concretes subject to combined leaching and external sulfate attack. *Cement and Concrete Research*, 162:106951, 2022: [doi.org/10.1016/j.cemconres.2022.106951](https://doi.org/10.1016/j.cemconres.2022.106951).

**Iliass Tahiri, Patrick Dangla, Matthieu Vandamme, and Quoc Huy Vu.** Numerical investigation of salt-frost damage of pervious concrete at the scale of a few aggregates. *Cement and Concrete Research*, 162:106971, 2022: [doi.org/10.1016/j.cemconres.2022.106971](https://doi.org/10.1016/j.cemconres.2022.106971).

**M. Xie, P. Dangla, and K. Li.** Reactive transport modelling of concrete subject to de-icing salts and atmospheric carbonation. *Materials and Structures*, 54, 2021: [doi.org/10.1617/s11527-021-01835-2](https://doi.org/10.1617/s11527-021-01835-2).

**M. Xie, P. Dangla, and K. Li.** Reactive transport modelling of concurrent chloride ingress and carbonation in concrete. *Materials and Structures*, 54, 2021: [doi.org/10.1617/s11527-021-01769-9](https://doi.org/10.1617/s11527-021-01769-9).

**Benjamin Darde, Patrick Dangla, Jean-Noël Roux, Jean-Michel Pereira, Jean Talandier, Minh Ngoc Vu, and Anh Minh Tang.** Modelling the behaviour of bentonite pellet-powder mixtures upon hydration from dry granular state to saturated homogeneous state. *Engineering Geology*, 278:105847, 2020: [doi.org/10.1016/j.enggeo.2020.105847](https://doi.org/10.1016/j.enggeo.2020.105847).

**G. Melot, P. Dangla, S. Granet, S. M'Jahad, J.B. Champenois, and A. Poulesquen.** Chemo-hydro-mechanical analysis of bituminized waste swelling due to water uptake: Experimental and model comparisons. *Journal of Nuclear Materials*, 536:152165, 2020: [doi.org/10.1016/j.jnucmat.2020.152165](https://doi.org/10.1016/j.jnucmat.2020.152165).

**Anais Grandclerc, Patrick Dangla, Marielle Gueguen-Minerbe, and Thierry Chaussadent.** Modelling of the sulfuric acid attack on different types of cementitious materials. *Cement and Concrete Research*, 105:126 – 133, 2018: [doi.org/10.1016/j.cemconres.2018.01.014](https://doi.org/10.1016/j.cemconres.2018.01.014).

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**J. Shen, P. Dangla, and M. Thiery.** Reactive transport modeling of CO<sub>2</sub> through cementitious materials under CO<sub>2</sub> geological storage conditions. *International Journal of Greenhouse and Gas Control*, 18(0):75–87, 2013: [dx.doi.org/10.1016/j.ijggc.2013.07.003](https://dx.doi.org/10.1016/j.ijggc.2013.07.003).

**M. Thiery, P. Dangla, P. Belin, G. Habert, and N. Roussel.** Carbonation kinetics of a bed of recycled concrete aggregates: a laboratory study on model materials. *Cement and Concrete Research*, 46:50–65, 2013: [10.1016/j.cemconres.2013.01.005](https://doi.org/10.1016/j.cemconres.2013.01.005).

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**Nikoosokhan, S., Vandamme, M., and Dangla, P.** A poromechanical model for coal seams injected with carbon dioxide: From an isotherm of adsorption to a swelling of the reservoir. *Oil Gas Sci. Technol. - Rev. IFP Energies nouvelles*, 67:777–786, 2012: [dx.doi.org/10.2516/ogst/2012048](https://dx.doi.org/10.2516/ogst/2012048).

**V. Baroghel-Bouny, T.Q. Nguyen, and P. Dangla.** Assessment and prediction of reinforced concrete structure service life by means of durability indicators and physical/chemical models. *Cement and Concrete Composites*, 31:522–534, 2009: [doi.org/10.1016/j.cemconcomp.2009.01.009](https://doi.org/10.1016/j.cemconcomp.2009.01.009).

**P. Dangla and W. Dridi.** Rebar corrosion in carbonated concrete exposed to variable humidity conditions. interpretation of tuutti's curve. *Corrosion Science*, 51:1747–1756, 2009: [doi.org/10.1016/j.corsci.2009.04.029](https://doi.org/10.1016/j.corsci.2009.04.029).

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#### PhD thesis

**Wissen DRIDI**, Couplage entre corrosion et comportement diphasique en milieu poreux. Application à l'évolution d'un stockage de déchets radioactifs, *École des Ponts ParisTech*, 2005.

**Thai Quang NGUYEN**, Modélisations physico-chimiques de la pénétration des ions chlorures dans les matériaux cimentaires, *École des Ponts ParisTech*, 2007.

**Jiyun SHEN**, Reactive Transport Modeling of CO<sub>2</sub> through Cementitious Materials under CO<sub>2</sub> Geological Storage Conditions, *Université Paris-Est*, 2012.

**Saeid NIKOOSOKHAN**, Geological Storage of Carbon Dioxide in Coal Beds: from Material to Reservoir, *Université Paris-Est*, 2012.

**Haifeng YUAN**, Degradation modeling of concrete submitted to biogenic acid attack, *Université Paris-Est*, 2013.

**Anais GRANDCLERC**, Compréhension des mécanismes de biodéterioration de matériaux cimentaires étude expérimentale et modélisation, *Université Paris-Est*, 2017.

**Yushan GU**, Experimental pore scale analysis and mechanical modeling of cement-based materials submitted to delayed ettringite formation and external sulfate attacks, *Université Paris-Est*, 2018.

**Geoffroy MELOT**, Modélisation du gonflement d'enrobés bitumeux par reprise d'eau, *Université Paris-Est*, 2019.

**Meijie XIE**, Numerical modeling of multi-species transport in cement-based porous materials, *Tsinghua university*.

**Iliass TAHIRI**, Freeze-thaw resistance of pervious concrete, *Université Paris-Est*, 2021.

**Yujiong CHEN**, Modélisation du gonflement par reprise d'eau des enrobés bitumineux au contact de la roche, *Université Paris-Est*, 2023.