Journées Multiphasiques MoMaS 2013
IHÉS, Bures-sur-Yvette

Monday October 7th

14.20–14.30: Opening par Emmanuel Ullmo, Directeur de l’IHÉS
Chairperson: Roland Masson

14.30–14.55: Clément Cancès
A positivity preserving scheme for anisotropic degenerate parabolic equations

15.00–15.25: Konstantin Brenner
Vertex Approximate Gradient Scheme for hybrid dimensional two phase Darcy flows in fractured porous media

15.30–15.55: Jocelyne Ehrel
Flow simulation in 3D porous fractured media

16.00–16.30: Tea break
Chairperson: Grégoire Allaire

16.30–16.55: Frédéric Legoll
Variance reduction approaches in stochastic homogenization

17.00–17.25: Julia Charrier
Weak truncation error estimates for elliptic PDEs with lognormal coefficients
Tuesday October 8th

Chairperson: Olivier Le Maitre

10.00–10.25: Laurent Trenty
*Probabilistic Analysis Based on Simulations of the Long-Term Gas Migration at Repository-Scale in a Geological Radioactive Waste Disposal*

10.30–10.55: Anthony Nouy
*Low-rank approximations and optimal model reduction for uncertainty quantification*

11.00–11.30: Coffee break

Chairperson: Cindy Guichard

11.30–13.00: Poster presentation

13.00–14.30: Lunch

Chairperson: Magdalena Dymitrowska

14.30–14.55: Jon Harrington
*Callowo-Oxfordian Claystone: processes governing advective gas flow*

15.00–15.25: Catherine Davy
*Gas migration through COx claystone: evidence of capillary snap off*

15.30–15.55: Zakaria Saâdi
*Numerical verification and experimental validation of the TOUGH2/EOS7Rn module for non-isothermal radon transport in two-phase porous and fractured media.*

16.00–16.30: Tea break

Chairperson: Hermann Zeyen

16.30–16.55: Yumeng Zhang
*Formulations of two phase liquid gas compositional Darcy flows with application to nuclear waste repositories*

17.00–17.25: Marc Prat
*Hyperslow drainage*

17.30–17.55: Tony Lelièvre
*Presentation of the GdR MoMaS. Towards simulations at the molecular level*
Wednesday October 9th

Chairperson: André Burnol

10.00–10.25: Pierre Adler
Flow of molecular fluids through three-dimensional porous media

10.30–10.55: Farid Smai
Proposition of a uniform formulation of isothermal compositional multi-phase flows with arbitrary number of phases and components

11.00–11.30: Coffee break

Chairperson: Anthony Michel

11.30–11.55: Michel Panfilov
Conceptual and numerical model of hydrogen migration through water with biotic reactions in a radioactive waste storage. Effects of self-organisation

12.00–12.25: Laurent de Windt
HYTEC modeling of oxygen gas diffusion and reactivity in a disposal cell of radioactive waste

12.30–14.00: Lunch

Chairperson: Sylvie Granet

14.00–14.25: Brahim Amaziane
Numerical simulation of two-phase multicomponent flow with reactive transport in porous media: application to geological storage of carbon dioxide.

14.30–14.55: Jérôme Jaffré
Incompressible two-phase flow in a fractured porous medium

15.00–15.25: Soleiman Youcef
A posteriori error estimates, stopping criteria, and adaptivity for multiphase compositional Darcy flows in porous media

15.30-16.00: Tea break

Chairperson: Danielle Hilhorst

16.00–16.25: Mazen Saad
Finite volume - nonconforming finite element for two compressible and immiscible flow in porous media

16.30–16.55: Robert Eymard
Study of a numerical scheme for miscible two-phase flow in porous media

16.55–17.00: Closure
Poster Session organized by Cindy Guichard

Vincent Baron
Comparison of DDFV and DG methods for flow in anisotropic heterogeneous porous media

André Fiebach
Voronoi finite volume methods for reaction-diffusion systems

Yueyuan Gao and Huy Cuong Vu Do
A generalized finite volume method for density driven flows in porous media

Cindy Guichard
Parallel simulation of two-phases Darcy flows with the VAG scheme

Walid Kheriji
Nearwell local space and time refinement for two phase porous media flows

Flore Nabet
Finite volume method for the Cahn-Hilliard equation with dynamic boundary condition

Tri-Dat Ngo
Hydrodynamics of a Two-phase mixture supercritical CO$_2$ – brine in a deep geological heterogeneous sequestration site

Lauriane Schneider
Numerical mof three-phase compressible flow in porous media using the global pressure formulation

Irina Sin
Study of the role of spatial heterogeneities in the vicinity of a CO2 injection well