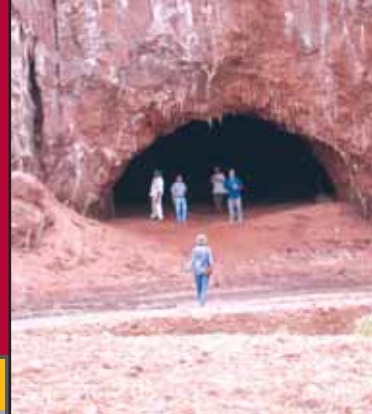


Pétrophysique et tectonique des bassins



→ ACCÈS AU SITE DU LABO

UMR Paris VI/UCP/CNRS n° 7072

Directeur

**P^r Dominique
Frizon de Lamotte**

dominique.frizon-de-lamotte@
geol.u-cergy.fr

Adresse

Université de Cergy-Pontoise

Site de Neuville 3-1
5, mail Gay Lussac, Neuville-sur-Oise
95031 Cergy-Pontoise cedex
Tél. : 01 34 25 73 52

Présentation

Équipe pluridisciplinaire combinant l'analyse de terrain, l'imagerie sismique, la mesure physique en laboratoire et la modélisation numérique pour progresser dans la connaissance d'objets géologiques complexes comme les fronts de chaînes de montagnes. Les applications concernent l'évolution des réservoirs naturels ou le stockage des déchets. L'équipe développe aussi un programme sur l'altération des pierres de construction.

Savoir-faire

Étude de bassins, mesures pétrophysiques, modélisations.

Collaborations internationales

- State University of New York.
- Université de Rome III.
- Université de Barcelone.
- Université de Grenoble.

Derniers contrats recherche

I.F.P. - Gaz de France - Andra.

Production scientifique 2004-2005

- AUBOURG, C., SMITH, B., BAKHTARI, H., GUYA, N., ESHRAGHI, A., LALLEMANT, S., MOLINARO, M., BRAUD, X., AND DELAUNAY, S., 2004, Post-Miocene shortening pictured by magnetic fabric across the Zagros-Makran syntaxis., in Sussman, A. J. a. W., A.B. eds., Orogenic curvature: integrating paleomagnetic and structural analyses: Boulder, Colorado., ed., Geological Society of America special paper, p. 17-40. AUBOURG, C., C. KLOOTWIJK, R. KORSH. Magnetic fabric of metapelites in the New-England fold belt (Australia). Special publication of the Geological Society. in press.
- BAUD, P., LOUIS, L., DAVID, C., RAWLING, G.C., and WONG, T.-f. (2005), Effects of bedding and foliation on mechanical anisotropy, damage evolution and failure mode. From : Bruhn, D. & Burlini, L. (eds) High-Strain Zones : Structure and Physical properties Geological Society, London, Special Publications, 245, 223-249.
- CAIRANNE, G., AUBOURG, C., POZZI, J.P., MOREAU, M.G., T. DECAMPS, G. MAROLLEAU. Opposite magnetic polarities recorded by laboratory CRM in claystone from Paris basin (France). Journal of Geophysical Interiors. in press.
- DEBACKER, T.N., ROBION, P. & SINTUBIN, M. (in press) The complexity of the anisotropy of magnetic susceptibility (AMS) in low-grade, cleaved pelitic rocks: influence of cleavage/bedding angle and type and relative orientation of magnetic carriers. Geological Society of London Special Publications 238, 77-107.
- FRIZON DE LAMOTTE, D., SOUQUE, C., LETURMY, P. AND ROBION, P., (2004). Reply to comment on Duplex at the lateral tip of a propagating thrust : the « La Caglière » example (Corbières, NE Pyrénées, France) by Laumonier et al.. Geodynamica Acta, vol 17/2, p 183-184.
- FRIZON DE LAMOTTE, D., CRESPO-BLANC, A., SAINT-BEZAR, B., FERNANDEZ, M., ZEYEN, H. and AYARZA, P., ROBERT-CHARRUE, C., CHALOUAN, A., ZIZI, M., TEIXELL, A., ARBOLEVA, M.L., ALVAREZ-LOBATO, F., JULIVERT, M. and MICARD, A. (2004). TRANSMED-transsect I [Betics, Alboran Sea, Rif, Moroccan Meseta, High Atlas, Jbel Saghro, Tindouf basin]. In: W. Cavazza, F. Roure, W. Spakman, G.M. Stampfli and P.A. Ziegler (eds) (2004) The TRANSMED Atlas: the Mediterranean region from Crust to Mantle. Springer, Berlin Heidelberg.
- FRIZON DE LAMOTTE, D. (2005) About the Cenozoic inversion of the Atlas domain in North Africa. C.R. Geosciences.
- HADDOUCHE, O., BOUTALEB, M., HEBERT, R., PICARD, D. et SAMI, L., (2004). Les minéralisations à Pb-Zn, Fe, Ba(Sr) d'El Ouasta (Algérie nord-orientale) : Typologie et apport des études d'inclusions fluides. Bull. Serv. Géol. Algérie, vol. 15, n° 2, pp.1-17.
- HUSSON, L., MUGNIER, J.L., LETURMY, P., VIDAL, G., (2004). Kinematics and sedimentary balance of the Sivaliks (W Nepal). in McClay, K.R., ed., Thrust tectonics and petroleum systems : American association of Petroleum Geologists Memoirs.
- JOLIVET, L., FAMIN V., MEHL C., PARRA T., AUBOURG C., HEBERT R., PHILIPPOT P., (2004). Progressive strain localisation, crustal-scale boudinage and extensional metamorphic domes in the Aegean Sea. Geological Society of America, Special paper 380. 185-210.
- LABROUSSE L., JOLIVET L., ANDERSEN T. B., AGARD P., HEBERT R., MALUSKI H., SCHARER U., 2004. Pressure-Temperature-Time-Deformation history of the exhumation of Ultra-High Pressure rocks in the Western Gneiss region, Norway. Geological Society of America, Special paper 380. 155-183.
- LION M., SKOCZYLAS F. AND LEDESERT B., (2004) Determination of the main hydraulic and poro-elastic properties of a limestone from Bourgogne, France. International Journal of Rocks Mechanics and Mining Science 41, 915-925.

Effectif

- 4 professeurs
- 6 maîtres de conférences
- 1 ATER
- 3 moniteurs
- 1 chercheur CNRS
- 1 ingénieur de recherche CNRS
- 1 ingénieur contractuel
- 1 secrétaire



Mots-clés

Tectonique
Bassins sédimentaires
Pétrophysique
Réservoirs
Déchets

- LION M., LEDÉBERT B. AND SKOCZYLA F. (2004) How does micropetrography help us understand the permeability and poromechanical behaviour of a rock? Terra Nova, 16, n° 6, 351-357.
- LOUIS, L., ROBION, P. and DAVID, C., A single method for the inversion of anisotropic data sets with application to structural studies, J. Struct. Geology, 26, 2065-2072, 2004.
- LOUIS, L., DAVID, C., METZ, V., ROBION, P., MENENDEZ, B., and KISSEL, C., Microstructural control on the anisotropy and transport properties in undeformed sandstones, sous presse dans Int. J. Rock Mech., 2004.
- MAUFFRET A., FRIZON de LAMOTTE, D., LALLEMANT, S., GORINI, C., and MAILLARD (2004). E-W opening of the Algerian Basin (Western Mediterranean). Terra Nova, doi: 10.1111/j.1365-3121.2004.00559.
- MICHARD, A., FRIZON de LAMOTTE, D. and CHALOUAN, A. (2005). Comment on: "The ultimate arc: differential displacements, oroclinal bending and vertical axis rotation in the External Betic-Rif arc" by J.P. Platt et al., Tectonics, 24, doi:10.1029/2004TC001603.
- MOLINARO, M., GUEZOU, J.C., LETURMY, P., FRIZON DE LAMOTTE D. S.A. ESHRAGHI. (2004) The origin of changes in structural style across the Bandar Abbas syntaxis, SE Zagros (Iran), Marine and Petroleum Geology, vol 21, p 735-752.
- MOLINARO, M., LETURMY, P., GUEZOU, J.C. AND FRIZON DE LAMOTTE D. (2005). The structure and kinematics of the south-eastern Zagros fold-thrust belt, Iran : from thin-skinned to thick-skinned tectonics. Tectonics.
- MOLINARO, M., ZEYEN, H. LAURENCIN, X (2005). Lithospheric structure underneath the South-Eastern Zagros (Iran) : recent slab break-off ? Terra Nova, 6, 1-6.
- MUGNIER J.L., HUYGHE, P., LETURMY, P., AND JOUANNE F., (2004). Episodicity and rates of thrust sheet motion in the Himalayas (western Nepal), in McClay, K.R., ed., Thrust tectonics and petroleum systems : American association of Petroleum Geologists Memoirs.
- ROCA, E., FRIZON de LAMOTTE, D., MAUFFRET, A., BRACENE, R., VERGES, J., BENAOUALI, N., FERNANDEZ, M., MUNOZ, J.A., ZEYEN, H. (2004). TRANSMED-transsect II [Aquitaine basin, Pyrenees, Ebro basin, Catalan coastal ranges, Valencia trough, Balearic promontory, Algerian basin, Tell, Sahara Atlas, Sahara platform]. In: W. Cavazza, F. Roure, W. Spakman, G.M. Stampfli and P.A. Ziegler (eds) (2004) The TRANSMED Atlas- the Mediterranean region from Crust to Mantle. Springer, Berlin Heidelberg.
- SHERKATI, S., MOLINARO, M., FRIZON de LAMOTTE, D., LETOUZEY, J. (submitted). Detachment folding in the Central and Eastern Zagros fold belt (Iran): salt mobility, multiple detachments and final basement control. Journal of Structural Geology.
- SIAME, L., BELLIER, O., SEBRIER, M., BOURLES, D., LETURMY, P., PEREZ, M. and ARAUJO, M. (in press). Corrigendum to Seismic Hazard reappraisal from combined structural geology, geomorphology and cosmic ray exposure dating analyses : the eastern Precordillera thrust system (NW Argentina) by Siame et al. Geophys. J. Int.
- TAVANI, S., LOUIS, L., SOUQUE, C., ROBION, P., SALVINI, F., & FRIZON de LAMOTTE, D. (2004). Evolution of Fracture Patterns and Physical Properties of Rocks in the Chaudrons Ramp-related Anticline (Corbières, France). In R. Swennen, F. Roure and J. W. Granth eds, Deformation, fluid flow and reservoir appraisal in foreland fold and thrust belts : AAPG Hedberg Series, n° 1, 257-275.
- AUBOURG, C., TSHOSO, G., LE GALL, B., TIERCELIN, J.J., DYMENT, J., KAMPUSU, H. "Magma flow pictured by magnetic fabric in the upper structural level of Okavongo dyke swarm". Submitted to Journal of Geothermal and Volcanic research.
- BERGERAT, F., ELION, P., FRIZON de LAMOTTE, D., PROUDHON, B., COMBES, P., ANDRE, G., WILLEVEAU, Y., LAURENT-CHARVET, S. (submitted). The Andra contribution to the knowledge of the structural evolution of the eastern Paris basin : toward a multiscale 3D approach. Mémoire de la société Géologique de France.
- DAVID, C., ROBION, P., et MENENDEZ, B., Anisotropy of elastic, magnetic and microstructural properties of the Callovo-Oxfordian argillite, submitted to Applied Clay Sciences.
- P70- LOUIS, L., ROBION, P., DAVID, C., FRIZON de LAMOTTE, D. (submitted). Multiscale anisotropy controlled by folding : the example of the Chaudrons fold (Corbières, France). Journal of Structural Geology.
- ROBION, P., FAURE, J.L., SWENNEN, R. (in press). Late Cretaceous Chemical Remagnetization of the Paleozoic carbonates from the undeformed Foreland of the Western Canadian Cordillera. American Association of Petroleum Geologists Memoirs.
- B. LE GALL, G. TSHOSO, J. DYMENT, G. FERAUD, H. BERTRAND, F. JOURDAN, C. AUBOURG, H. KAMPUNZU, M.P. MODISI, J.J. TIERCELIN. Structure of the Okavongo giant mafic dyke swarm (NE Botswana) and its significance within the Karoo large igneous province of southern Africa. Submission to Journal of Structural Geology.
- MAILLOT B. AND H. KOVI, Thrust dip and thrust refraction in fault-bend folds: analogue experiments and theoretical predictions, soumis au (vit Journal of Structural Geology).
- P73- MISSENARD, Y., FRIZON de LAMOTTE, D., ZEYEN, H., LETURMY, P., PETIT, C., and SEBRIER, M. (submitted). Crustal versus Asthenospheric origin of the Relief of the Atlas Mountains of Morocco. Journal of Geophysical Research.
- SMITH, B., AUBOURG, C., GUEZOU, J.C., MOLINARO, M., GUYA, N. Paleomagnetic and structural investigation of a bayonet fold. Example of Minab anticline (Zagros-Makran syntaxis). submitted Tectonophysics.
- SHERKATI, S., MOLINARO, M., FRIZON de LAMOTTE, D., LETOUZEY, J. (submitted) Detachment folding in the Central and Eastern Zagros fold belt (Iran) salt mobility, multiple detachments and late basement control. Journal of Structural Geology.
- SHERKATI, S., LETOUZEY, J., FRIZON de LAMOTTE, D. (submitted). The Central Zagros fold-thrust belt (Iran): new insight from seismic data, field observation and sandbox modelling. Tectonics.
- VLASTOS S., E. LIU, I.G. MAIN, M. SCHOENBERG, C. NARTEAU, B. MAILLOT, Dual simulations of fluid flow and seismic wave propagation in a fractured network: effect of pore pressure on seismic signature, soumis au (vit Geophysical Journal International).

Équipement

- Presse triaxide.
- Magnétomètre JRG.
- Anisomètre KLY3.
- Microscopes optiques.
- Cathodoluminescence.

Research team combining fieldwork, subsurface data analysis, laboratory measurements and numerical modelling in order to progress on the knowledge of geological structures as the ones exposed along the foothills of mountains belts. Developments concern the evolutions of reservoirs and waste storage. The team also develops a programme on adulteration of historical buildings.

Keywords

Tectonics
Sedimentary basins
Physics of rocks
Reservoirs
Waste storage