

Personal data

Name Peggy GUNKEL-GRILLON
 Born January 7th 1972 in Mulhouse, France
 Nationality French

Education

2015 Ability to conduct researches, University of New-Caledonia, Nouméa, New-Caledonia
 2001 PhD in chemistry, University of Haute-Alsace, Mulhouse, France

Current Position

Assistant professor at the University of New-Caledonia
 Deputy Director of ISEA laboratory (Institut des Sciences Exactes et Appliquées, EA 7484)
 BP R4-98851 Nouméa Cedex, New-Caledonia
 Tel : +687 290 327
 Email : peggy.gunkel-grillon@univ-nc.nc

Previous academic positions

2003-2007 Temporary teacher and researcher at the University of Geneva, Analytical and Biophysical Environmental Chemistry Group (CABE) <http://www.unige.ch/cabe/>
 2001-2003 Temporary teacher and researcher at the University of Haute-Alsace, Mulhouse, France, Gestion des Risques et Environnement laboratory (GRE) <http://www.gre.uha.fr/>

Current teaching activities

Courses, TD and TP on analytical chemistry, inorganic chemistry, aqueous chemistry and electrochemistry and on atomistic

Current research activities

Key words Environmental chemistry, analytical chemistry, metal speciation, and electrochemistry
My research Metallic elements are naturally present in our environment, but their biogeochemical cycles are disturbed by human activities. Their high reactivity is responsible for the great diversity of chemical forms they may be under. Their mobility and toxicity are closely related to their chemical form. In order to assess their risk of transfer to the abiotic or biotic compartments of the environment, it is essential both to determine the chemical forms under which they are found and to identify the associated environmental factors. My work then aims to meet the needs of knowledge on the behavior of metals for a modern society concerned with sustainable development.

Grants support since 2008

Sponsor	PIURN research Grant
Role	Co-investigator (Principal investigator: Pr Francis Manni)
Project period	2018-2020
Title	« Air Pollution in Pacific Island cities: PM2.5 measurements, its elemental composition and bio-monitoring
Total costs	€ 25, 000
Sponsor	CNRT Nickel and its environment.
Role	Co-investigator (Principal investigator: Dr Agnès Feurtet-Mazel)
Project period	2015-2018
Title	« Dispersion des Métaux de la Mine au Lagon (DMML)» http://www.cnrt.nc/dmml/
Total costs	€290,000
Sponsor	CNRT Nickel and its environment
Role	Collaboration (Investigator: Farid Juillot)

- Project period 2015-2018
 Title « DYNAmique des métaux de la MINE au lagon (DYNAMINE)», <http://www.cnrt.nc/dynamine/>
 Total costs €185,000
- Sponsor ANR MATETPRO Ecocorail
 Role Collaboration (Investigator: Marc Jeannin)
 Project period 2014-2018
 Title « Procédé physico-chimique pour la synthèse de matériaux marins durables pour la préservation du littoral », <http://www.agence-nationale-recherche.fr/Projet-ANR-13-RMNP-0004>
 Total costs €1, 000,000
- Sponsor CNRT Nickel and its environment
 Role Collaboration (Investigators: Bice Fubini & Christine Laporte-Magoni)
 Project period 2015-2017
 Title « Amiante et Bonnes Pratiques », <http://www.cnrt.nc/abp/>
 Total costs €124,000
- Sponsor French overseas ministry
 Role Collaboration (Investigator: Arnaud Serres)
 Project period 2014-2015
 Title Formation Electrochimique d'un Conglomérat Calcaire pour la réhabilitation des littoraux dans le Pacifique ; tests in situ à Wallis et Futuna (FECC)
 Total costs €42,000
- Sponsor South Pacific funding (n°SPP: 83-1-2013)
 Role Collaboration (Investigator: Arnaud Serres)
 Project period 2013-2014
 Title Lutte contre l'érosion des zones littorales du Pacifique par une méthode originale d'électrodéposition (LITTOFORT)
 Total costs €20,000
- Sponsor French overseas ministry
 Role Co-Investigator (Principal investigator: Vincent Lignier)
 Project period 2013-2014
 Title Nautilus Death Cave, « Etude paléontologique, hydro-géologique et paléo-climatique des profondeurs du Karst de Lifou, Nouvelle-Calédonie)
 Total costs €35,000
- Sponsor Industrial funding, XSTRATA
 Role Collaboration (Investigator: Christine Laporte-Magoni)
 Project period 2012-2014
 Title Evolution temporelle des propriétés physico-chimiques et structurales des minéraux asbestiformes du massif du Koniambo. Vers une meilleure évaluation du risque.
 Total costs €55,000
- Sponsor French overseas ministry
 Role Collaboration (Investigator: Christine Laporte-Magoni)
 Project period 2012-2014
 Title Caractérisation des transferts chimiques et des propriétés physiques et physico-chimiques des Minéraux Asbestiformes de la Nouvelle Calédonie. Vers une meilleure évaluation du risque sanitaire lié à l'amiante environnemental (projet CMA-NC)
 Total costs €15,000

Sponsor	French overseas ministry
Role	Investigator
Project period	2011-2013
Title	« Étude des lisiers des élevages porcins » (ELEP)
Total costs	€30,000
Sponsor	CNRT Nickel and its environment
Role	Collaboration (Investigators: Hamid Amir&Laurent l’Huillier)
Project period	2010-2013
Title	« Caractérisation et fonctionnement du système sol/plante/microorganismes dans les maquis miniers. Perspectives d’application à la restauration écologique » (ECOMINE-BIOTOP) http://www.cnrt.nc/ecomine-biotop/
Total costs	€470,000
Sponsor	CNRT Nickel and its environment
Role	Collaboration (Investigator: Dominique Cluzel)
Project period	2011-2014
Title	« Fonctionnement de petits bassins versants miniers » (FPBVM) http://www.cnrt.nc/fpbvm/

Thesis supervised

- *Cassandre Certain (2018-2021) : « Effet de la salinité sur la productivité et la valeur nutritionnelle de plantes halophytes indigènes destinées à l’alimentation humaine et aquacole »*
- *Jordan Prévot (2016- 2019) : « Formation d’un agglomérat scorie-dépôt calcomagnésien en vue de la valorisation de la scorie issue de l’extraction pyrométallurgique du nickel »*
- *Jasmine Pétrigliéri (2014-2017): “Alteration of asbestiform minerals under sub-tropical climate: mineralogical monitoring and geochemistry. The example of New Caledonia.”*
- *Charlotte Carré (2014-2017) : « Utilisation du dépôt calcomagnésien comme outil de décontamination de l’eau de mer »*
- *Camille Pasquet (2013-2016) : « Evaluation de la biodisponibilité du nickel, cobalt et manganèse dans les poussières de sols ultramaïques et développement d’un outil de bioindication lichénique des poussières émises par les activités minières en Nouvelle-Calédonie »*

Bibliography

Peer-Reviewed publications

1. C. Carré, P. Gunkel-Grillon, A. Serres, M. Jeannin, R. Sabot, T. Quiniou, “Calcareous electrochemical precipitation, a new method to trap nickel in seawater”. *Environmental Chemistry Letters* (2017) 15(1), pp. 151-156
2. Pasquet, C., Gunkel-Grillon, P., Laporte-Magoni, C., Serres, A., Quiniou, T., Rocca, F., Monna, F., Losno, R., van Oort, F., Chateau, C. “Alternative dry separation of PM10 from soils for characterization by kinetic extraction: example of new Caledonian mining soils”. *Environmental Science and Pollution Research* (2016), Volume 23, Issue 24, Pages 25105-25113
3. Pasquet, C., Le Monier, P., Monna, F., Durllet, C., Brigaud, B., Losno, R., Chateau, C., Laporte-Magoni, C., Gunkel-Grillon, P. « Impact of nickel mining in New Caledonia assessed by compositional data analysis of lichens”. *SpringerPlus Open Access*, Volume 5, Issue 1, 1 December 2016, Article number 2022
4. P. Gunkel-Grillon, E. Roth, C. Laporte-Magoni, M. Le Mestre, “Effects of long term raw pig slurry inputs on nutrient and metal contamination of tropical volcanogenic soils, Uvéa Island (South Pacific)”. *Science of the Total Environment* (2015) 533, 339–346

5. Gunkel-Grillon, P., Laporte-Magoni, C., Lemestre, M., Bazire, N. "Toxic chromium release from nickel mining sediments in surface waters, New Caledonia". *Environmental Chemistry Letters* (2014) Vol.12, N°4, 511-516
6. Roth, E., Gunkel-Grillon, P., Joly, L., Thomas, X., Decarpenterie, T., Mappé-Fogaing, I., Laporte-Magoni, C., Dumelié, N., Durry, G., "Impact of raw pig slurry and pig farming practices on physicochemical parameters and on atmospheric N₂O and CH₄ emissions of tropical soils, Uvéa Island (South Pacific)". *Environmental Science and Pollution Research* (2014) 21 : 10022–10035
7. Mappé, I., Joly, L., Durry, G., Thomas, X., Decarpenterie, T., Cousin, J., Dumelié, N., Roth, E., Chakir, A., Gunkel-Grillon, P. « A quantum cascade laser absorption spectrometer devoted to the in situ measurement of atmospheric N₂O and CH₄ emission fluxes ». *Review of Scientific Instruments*, Volume 84, Issue 2 (2013) Article number 023103
8. V. Lignier, R. Mapes, D. Hembree, N. Landamann, I. Couchoud C. Goiran, E. Folcher, P.Gunkel-Grillon et E. Manca, « Le Cénote d'Ani-e-Wee (Lifou, Nouvelle-Calédonie) et son gisement exceptionnel de *Nautilus Macromphalus* », *Karstologia*, 2013, N°61, 37-44
9. Bayen, S., Gunkel-Grillon, P., Worms, I., Martin, M., Buffle, J. "Influence of inorganic complexes on the transport of trace metals through permeation liquid membrane". *Analytica Chimica Acta* (2009), Volume 646, Issue 1-2, 30, 104-110
10. P. Gunkel-Grillon, J. Buffle. "Speciation of Cu(II) with a flow-through permeation liquid membrane: Discrimination between free copper, labile and inert Cu(II) complexes, under natural water conditions". *Analyst* (2008), Volume 133, Issue 7, 954-961 Hot article
11. Unsworth, E.R., Warnken, K.W., Zhang, H., Davison, W., Black, F., Buffle, J., Cao, J., Cleven, R., Galceran, J., Gunkel, P., Kalis, E., Kistler, D., Van Leeuwen, H.P., Martin, M., Noël, S., Nur, Y., Odzak, N., Puy, J., Van Riemsdijk, W., Sigg, L., Temminghoff, E., Tercier-Waerber, M.-L., Toepperwien, S., Town, R.M., Weng, L., Xue, H. "Model predictions of metal speciation in freshwaters compared to measurements by in situ techniques". *Environmental Science and Technology* (2006) 40(6), 1942-1949
12. Sigg, L., Black, F., Buffle, J., Cao, J., Cleven, R., Davison, W., Galceran, J., Gunkel, P., Kalis, E., Kistler, D., Martin, M., Noël, S., Nur, Y., Odzak, N., Puy, J., Van Riemsdijk, W., Temminghoff, E., Tercier-Waerber, M.-L., Toepperwien, S., Town, R.M., Unsworth, E., Warnken, K.W., Weng, L., Xue, H., Zhang, H.L. "Comparison of analytical techniques for dynamic trace metal speciation in natural freshwaters". *Environmental Science and Technology* (2006) 40(6), 1934-194
13. P. Gunkel, E. Roth, B. Fabre. "Sequential extraction of copper from soils and relationships with copper in maize". *Environmental Chemistry letters* (2004) 2(2), 99-103
14. P. Gunkel, E. Roth, B. Fabre. "Copper distribution in chemical soil fractions and relationships with maize crop yield". *Environmental Chemistry letters* (2003), 1: 92-97
15. P. Gunkel, K. Jezequel, B. Fabre. "Temporal evolution of copper distribution in soil fractions, influence of soil pH and organic carbon level on copper distribution." *Environmental Technology* (2002), 23(9), pp1001-1008
16. P. Gunkel, B. Fabre, G. Prado, J.Y. Baliteau. "Ion Chromatographic and Voltammetric Determination of Heavy Metals in Soils. Comparison with Atomic Emission Spectroscopy". *Analisis* (1999), 27(10), 823-828.

NON-Peer-Reviewed publications

1. P. Gunkel-Grillon*, C. Carré, A. Serres, M. Jeannin, R. Sabot, «The calcareous deposit formed under cathodic polarization of a galvanised steel electrode as metals remediation device of seawater», 18th International Conference on Heavy Metals in the Environment (ICHMET) proceedings, p27-28, 12 -15 September 2016, Ghent, Belgium

2. P. Gunkel-Grillon*, A. Boula, M. Le Mestre, C. Laporte-Magoni, «Chromium contamination of water due to Ni mines, New-Caledonia», 18th International Conference on Heavy Metals in the Environment (ICHMET proceedings, p581-582, 12-15 September 2016, Ghent, Belgium
3. C. Pasquet, P. Le Monier, F. Monna, C. Durlet, B. Brigaud, R. Losno, C. Laporte-Magoni, P. Gunkel-Grillon, "Lichen used assess nickel atmospheric dispersion, an example of New-Caledonia", ISBN 978-1-84626-xxx-x, Proceedings of 2015 International Conference on Environment, Chemistry and Biology, (ICECB 2015), Auckland, 19-21 November, 2015
4. A. Boula, C. Laporte-Magoni, P. Gunkel-Grillon and N. Selmaoui-Folcher, « Determination of geochemical background pattern of surface waters in an ultramafic and non-anthropogenic context: Koniombo massif, New-caledonia », Conference paper: International Conference on Oceans and Rivers (ICOR 2014), Fidji, 2014
5. H. Amir, A. Laurent, Y. Cavaloc, P. Pagand, P. Gunkel, M. Lemestre, V. Médevielle, "Improving growth and adaptation of *Carpolepis laurifolia*, an endemic plant species used on ecological restoration of mined areas in New Caledonia. Field experiment on the combined effects of arbuscular mycorrhizal fungi and organic amendment". Conference paper: Second International Conference of the Society for Ecological restoration Australasia (SERA), Nouméa, New-Caledonia, 2014
6. E. Roth, B. Fabre, P. Gunkel. " Revue bibliographique sur les techniques mises en œuvre pour le traitement des sols pollués par les isomères et les résidus de l'hexachlorocyclohexane". Déchets- Revue francophone d'écologie industrielle, Juin 2005, 38, pp8-14
7. B. Fabre, P. Gunkel " Etude de la bioaccumulation d'éléments traces métalliques dans du maïs cultivé sur un sol agricole pollué". CNRIUT 2004. Tome 1, Sciences et Techniques de l'ingénieur: Publications de l'IUT de Nice Côte d'Azur, Mai 2004
8. E. Roth, P. Gunkel, B. Fabre. " Etude de la teneur en cuivre d'un sol viticole Champenois ". CNRIUT 2002, Tome 1, Mathématiques, biologie, biochimie, sciences pour l'ingénieur, chimie, informatique: Publications de l'université de Bourgogne, IUT du Creusot, Mai 2002, 275-280
9. B. Fabre, E. Roth, P. Gunkel. " Adsorption du Cadmium sur différentes fractions d'un sol limoneux acide. Influence de la matière organique et du modèle d'adsorption ". CNRIUT 2002, Tome 1, Mathématiques, biologie, biochimie, sciences pour l'ingénieur, chimie, informatique: Publications de l'université de Bourgogne, IUT du Creusot, Mai 2002, pp163-168
10. K. Jézéquel, P. Gunkel, B. Fabre, E. Roth. "Etude de la corrélation entre la teneur en cuivre dans la fraction échangeable de sols agricoles et la teneur en cuivre dans le maïs à différents stades de développement." CNRIUT 2001, volume 1, Publications de l'Université de St Etienne, 2001, 123-132
11. B. Fabre, P. Gunkel. " Dosages de métaux lourds dans des sols par chromatographie ionique. Comparaison avec l'ICP-AES. " Harmattan Editions, Sciences et technologies : regards croisés, Juin 1999, 333-341

Abstracts

1. M. Baudrimont*, Y. Dominique, P. Gunkel-Grillon, F. Juillot, A. Boula, C. Laporte-Magoni, N. Semaoui Folcher, J. Bellec, R. Maury-Brachet, P. Gonzalez, P.Y. Gourves, A. Feurtet-Mazel, "Mining activities in New Caledonia: transfer of Ni, Cr, Co, Mn and Fe in freshwater trophic webs from natural biofilm to carnivorous fish" 1st International Workshop on the geochemical cycle of nickel, Nancy, October 17 to 19, 2017
2. C. Pasquet & P. Gunkel-Grillon & C. Laporte-Magoni & A. Serres & T. Quiniou & F. Rocca & F. Monna & R. Losno & F. van Oort, " A new and simple dry separation of PM10 from mining soils for Ni, Co and Mn bioavailability study by kinetic extractions", SETAC Australasia Conférence, The role of environmental toxicology and chemistry in a changing environment, Goldcoast Australia, 4-6 sept 2017
3. C. Carré, A. Serres, P. Gunkel-Grillon*, M. Jeannin, R. Sabot, "Calcareous electrochemical precipitation, a new method to trap dissolved metallic pollutants in seawater" SETAC Australasia Conférence, The

- role of environmental toxicology and chemistry in a changing environment, Goldcoast Australia, 4-6 sept 2017*
4. M. Baudrimont, Y. Dominique, P. Gunkel-Grillon, F. Juillot, A. Boula, C. Laporte-Magoni, N. Semaoui Folcher, J. Bellec, R. Maury-Brachet, P. Gonzalez, P.Y. Gourves, A. Feurtet-Mazel, "Transfer of Ni, Cr, Co, Mn and Fe from mining activities to freshwater trophic webs in rivers of New Caledonia", SETAC Australasia Conférence, The role of environmental toxicology and chemistry in a changing environment, Goldcoast Australia, 4-6 sept 2017
 5. C. Pasquet, P. Le Monier, F. Monna, C. Laporte-Magoni, P. Gunkel-Grillon*, "Lichen and compositional data analysis: a new approach to investigate areas influenced by Ni mines dusts. SETAC Australasia Conférence, The role of environmental toxicology and chemistry in a changing environment, Goldcoast Australia, 4-6 sept 2017
 6. J.R. Petriglieri*, C. Laporte-Magoni, E. Salvioli-Mariani, P. Gunkel-Grillon, M. Tribaudino, L. Mantovani, D. Bersani, P.P. Lottici, and M. Tomatis, "Monitoring environmental risk in fibrous minerals in New Caledonia: a comparison between different analytical methods", European Geosciences Union (EGU) General Assembly 2017, Vienna, Austria, 23–28 April 2017
 7. Petriglieri J.R.*, Laporte-Magoni, Salvioli-Mariani, Gunkel-Grillon P., Tribaudino M., Bersani, Lottici P., Mantovani L., Gandolfi N.B., "Fibrous minerals in New Caledonia: a comparison of different analytical strategies for environmental monitoring." SIMPS 2017, "Geosciences: a tool in a changing world", Pise, Italie
 8. Julian Guezenoc, Camille Pasquet, Peggy Gunkel-Grillon, Monika Le Mestre, Christine Laporte-Magoni, Lena Bassel, Frédéric Adamietz, Anne Gallet-Budynek and Bruno Bousquet*, "LIBS analysis of soils from New Caledonia to evaluate the environmental impact of the extraction of nickel ore". The 9th International Conference on Laser-Induced Breakdown Spectroscopy (LIBS), Chamonix-Mont-Blanc, France, September 12 – 16 2016
 9. Julian Guezenoc, Camille Pasquet, Peggy Gunkel-Grillon, Monika Le Mestre, Christine Laporte-Magoni, Lena Bassel, Frédéric Adamietz and Bruno Bousquet*, "LIBS analysis of soils from New Caledonia to evaluate the environmental impact of the extraction of nickel ore", SciX 2016: The 43rd Annual North American Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), 18-23 sept 2016
 10. P. Gunkel-Grillon*, C. Carré, A. Serres, M. Jeannin, R. Sabot, «The calcareous deposit formed under cathodic polarization of a seawater steel electrode as metals remediation device of seawater», 18th International Conference on Heavy Metals in the Environment (ICHMET), 12 -15 September 2016, Ghent, Belgium
 11. P. Gunkel-Grillon*, A. Boula, M. Le Mestre, C. Laporte-Magoni, «Chromium contamination of water due to Ni mines, New-Caledonia», 18th International Conference on Heavy Metals in the Environment (ICHMET), 12-15 September 2016, Ghent, Belgium
 12. Pasquet, C*.; Gunkel-Grillon, P.; Laporte-Magoni, C.; Monna, F.; Losno, R.; van Oort, F. (2016) "Kinetic extraction as an accurate tool to assess nickel bioavailability in ultramafic soils". SETAC Asia/Pacific Singapore, 16-19 sept. 2016.
 13. M. Jeannin*, C. Carré, R. Sabot, A. Serres, P. Gunkel-Grillon, T. Quiniou, P. Refait, "Study of the Calcareous formed on galvanized steel by cathodic protection in seawater, EUROCORR (European corrosion congress), Montpellier 11-15 septembre 2016
 14. C. Carré*, A. Serres, P. Gunkel-Grillon, M. Jeanin, R. Sabot, «The calcareous deposit formed under cathodic polarization as a contaminant monitoring device in seawater » EUROCORR (European corrosion congress), Montpellier 11-15 septembre 2016

15. C. Carré*, A. Serres, P. Gunkel-Grillon, M. Jeanin, R. Sabot. "The calcareous deposit formed under cathodic polarization as a contaminant monitoring device in seawater" Auckland : ISE (international society of electrochemistry), 17-20 avril 2016
16. A. Serres*, C. Carré, P. Gunkel-Grillon, M. Jeanin, R. Sabot, "The use of a bi-metallic structure under cathodic protection in seawater favors a 3D calcareous growth imitating the coral structure », Auckland : ISE (international society of electrochemistry), 17-20 avril 2016
17. C. Pasquet*, P. Le Monier, F. Monna, C. Durllet, B. Brigaud, R. Losno, C. Laporte-Magoni, P. Gunkel-Grillon, "Lichen used assess nickel atmospheric dispersion, an example of New-Caledonia", International Conference on Environment, Chemistry and Biology, (ICECB 2015), Auckland, 19-21 November, 2015
18. P. Gunkel-Grillon* and J. Buffle, "The Flow-through Permeation Liquid Membrane, a tool for Metal Speciation Measurements in waters". 11th Pacific Science Inter-Congress 2009
19. P. Gunkel-Grillon* and J. Buffle, "The Flow-through Permeation Liquid Membrane, a tool for Metal Speciation Measurements in waters". 11th Pacific Science Inter-Congress 2009
20. S. Bayen*, P. Gunkel-Grillon, J. Buffle. "Influence of inorganic complexes on the transport of trace metals through permeation liquid membrane" Tracespec 2007; 4-7 Sep 2007, Münster, Germany
21. P. Gunkel-Grillon*, J. Buffle. "Use of permeation liquid membrane to measure metals speciation in solutions". 5th Aegean Analytical Chemistry Days, Thessaloniki, octobre 2006
22. P. Gunkel-Grillon*, J. Buffle. "Flow-through permeation liquid membrane as a sensor for free and labile copper ions in natural waters" Workshop on Analytical Chemistry and Ecotoxicology, Genève, février 2006
23. P. Gunkel*, B. Fabre. "Influence of soil copper level, soil organic matter and soil pH on copper concentration in maize". 2nd European Meeting on Environmental Chemistry, Dijon, décembre 2001
24. M. J. Concalves, P. Gunkel, E. Roth*, B. Fabre. "Preliminary study of Cadmium electro-dialytic removal from soil". 2nd European Meeting on Environmental Chemistry, Dijon, décembre 2001
25. P. Gunkel*, K. Jézéquel, B. Fabre. "Chemical speciation of copper in polluted agricultural soils. Temporal evolution." 1st French Meeting on Environmental Chemistry, Nancy, décembre 2000

Scientific reports

1. Hamid Amir, Laurent L'Huillier, Bruno Fogliani, Yvon Cavaloc, Simon Gensous, Philippe Jourand, Marc Ducouso, Clarisse Majorel, Laure Hannibal, Danielle Saintpierre, Peggy Gunkel-Grillon, Pascal Pagand, Guillaume Echevarria, Liane-Clarisse Mouchon, Marie-Laure Bonis, Emmanuelle Montargès-Pelletier, Laurent Maggia, Adrien Wulff, rapport du projet d'étude ECOMINE BioTop : «Caractérisation et fonctionnement du système sol/plante/microorganismes dans les maquis miniers. Perspectives d'application à la restauration écologique » CNRT Nickel et son environnement, 375 p
2. P. Gunkel-Grillon, E. Roth, C. Laporte-Magoni, L. Joly, 2013, « Etude des Lisiers des Elevages Porcins (ELEP) : mesure des risques de pollution des sols et de l'eau en vue d'une proposition de gestion des déchets d'élevage de Wallis », Rapport final du projet de recherche financé pour partie par le Secrétariat d'état à l'Outre-Mer, programme 2010
3. H. Amir, P. Gunkel-Grillon, 2010, « Influence de l'activité biologique (microorganismes, plantes) et de la dessiccation sur la spéciation de quelques métaux dans les latérites limonitiques taritées pour extraire Ni et Co. Relations avec la survie des champignons mycorrhiziens à arbuscules ». Convention avec Goro-Nickel, Contrat N°1267, 2007

