



Dr Nadine Merlet-Machour

Associate professor

Analysis and modelling team

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PROFESSIONAL EXPERIENCES

- 1993- Associate professor - University of Rouen Normandy
1989-1993 Chemical Engineer in R&D (GLAXO)

EDUCATION

- 1989 PhD Analytical Chemistry (University of Rouen)

ADMINISTRATIVE & INSTITUTIONAL RESPONSIBILITIES

- 2000-2010 Teaching manager of the professional degree "research and product development". Creation of the apprenticeship program.
2008-2012 Member of the CEVU – University of Rouen

RESEARCH INTERESTS

- Mass Spectrometry
- Separation sciences
- Capillary electrophoresis
- Gas chromatography/MS/MS with thermodesorption
- Environmental analyses
- Complex organic mixtures

SCIENTIFIC ACHIEVEMENTS

16 publications (academia & industry), 2 book chapters

PUBLICATIONS

1. Particulate inorganic salts and trace element emissions of a domestic boiler fed with 5 commercial brands of wood pellets. S. Marcotte, C. Castilla, C. Morin, N. Merlet-Machour, L. Carrasco, F. Médaerts, H. Lavanant, C. Afonso, *Environmental Science and Pollution Research* (2020) 27:18221–18231.

2. Experimental designs for optimizing multi-residual microwave-assisted extraction and chromatographic analysis of oxygenated (hydroxylated, quinones) metabolites of PAHs in sediments. I. Berger-Brito, N. Machour, C. Morin, F. Portet-Koltalo, *Chromatographia*, 81 (2018) 1401-1412.
3. Geophysical and geochemical characterisation of a site impacted by hydrocarbon contamination undergoing biodegradation. M. Abbas, A. Jardani, N. Machour and J-P. Dupont. *Near Surface Geophysics* (2018) 16 :176-192.
4. Concentrations and source identification of Polycyclic Aromatic Hydrocarbons (PAHs) and Polychlorinated Biphenyls (PCBs) in Agricultural, Urban/residential, and Industrial soils, East of Oran (Northwest of Algeria), A. Halfadji, A. Touabet, F. Portet-Koltalo, F. Le Derf, N. Merlet-Machour, *Polycyclic Aromatic Compounds*, **2017**, 1-12
5. A new study of the bacterial lipidome: HPTLC-MALDI-TOF imaging enlightening the presence of phosphatidylcholine in airborne *Pseudomonas fluorescens* MFAF76a, Tatiana Kondakova, Nadine Merlet-Machour, Manuel Chapelle, David Preterre, Frédéric Dionnet, Marc Feuilloley, Nicole Orange, Cécile Duclairoir-Poc, *Research in Microbiology* **2015**, 166(1), 1-8.
6. Correlations between PAH bioavailability, degrading bacteria, and soil characteristics during PAH biodegradation in five diffusely contaminated dissimilar soils, Crampon M., Bureau F., Akpa-Vinceslas M., Bodilis J., Machour N., Le Derf F., Portet-Koltalo F., *Environ. Sci. Pollut. Res* **2014**, 21, 8133-8145.
7. Occurrence of 1,1'-dimethyl-4,4'-bipyridinium(paraquat) in irrigated soil of the lake Chad Basin, Niger. M. Crampon, Y. Copard, G. Favreau, J. Raux, N. Merlet-Machour, M. Le Coz, M. Ibrahim, V. Peulon-Agasse, F. Portet-Koltalo. *Environ Sci Pollut Res* (2014)
8. Comparison of hot Soxhlet and accelerated solvent extractions with microwave and supercritical fluid extractions for the determination of polycyclic aromatic hydrocarbons and nitrated derivatives strongly adsorbed on soot collected inside a diesel particulate filter, Oukebdane K., Portet-Koltalo F., Machour N., Dionnet F., Desbène P.L., *Talanta* **2010**, 82, 227–236
9. Analysis of virtual two-dimensional gels based upon affinity capillary electrophoresis hyphenated to ion trap-mass spectrometry, Machour N., Place J., Tron F., Charlionet R., Mouchard R., Morin C., Desbene A., Desbene P.L., *Electrophoresis* **2005**, 26 (7-8), 1466-1475.
10. Two-dimensional electrophoresis and mass spectrometry identification of proteins bound by a murine monoclonal anti-cardiolipin antibody: A powerful technique to characterize the cross-reactivity of a single autoantibody, Thebault S., Gilbert D., Machour N., Marvin L., Lange C., Tron F., Charlionet R. *Electrophoresis* **2000**, 21(12), 2531-2539.