

KEYWORDS: Volatile Organic Compounds (VOCs), pollution dynamics, emission kinetics, Interior Air Quality (IAQ), gaseous industrial emissions, work environments

OBJECTIVES

- Provide a global response to the issue of air quality management by combining scientific and industrial skills in the framework of a transdisciplinary approach
- Generate and support innovative research and development projects in the field of the metrology, treatment and evaluation of air pollutants and associated risks
- Accelerate the commercialisation of innovative products

ACTIVITIES

- Identification and quantification of targeted compounds
- On-site analysis of pollution dynamics
- Monitoring of emission kinetics
- Evaluation of measurement devices (analysers/sensors) and processing systems (IAQ)
- Characterisation of exposure (work environments)
- Characterisation of gaseous industrial emission treatment systems

SPECIFIC FEATURES

- Use of high-sensitivity measuring tools enabling real-time measurement
- Test rooms for experiments on real atmospheres at 1:1 scale
- Capacity for transdisciplinary approach (scientific, legal, psychosocial) together with other IMT Mines Alès research centers and the University of Nîmes (CHROME team)

FIELDS OF APPLICATION

- IAQ (Building open to public)
- Gaseous industrial emissions
- Work environments
- Ambient air
- Health
- Transport

WHAT WE OFFER

- Collaborative research
- Service provision
- Feasibility studies
- Expert assessments
- Training



OUR COMPETENCES & RESOURCES

SKILLS

- Elaboration of sampling protocols for all types of sources
- Definition of experimental protocols
- Conditioning and preparation of samples
- Manipulation of gases
- Generating mixtures of standards

SCIENTIFIC EXPERTISE

- Identification / quantification of targeted molecules at trace or ultra-trace levels in complex gaseous matrices
- Comparing the chemical composition of a gaseous matrix with :
 - their associated odour and/or unpleasant effect
 - the potential health impact

MAIN EQUIPMENT

- Proton-Transfer-Reaction Mass Spectrometer (PTR-TOF-MS)
- Combined Thermal Desorption / Gas Chromatography / Mass Spectrometry / Olfactometry (TD-GC-MS-O)
- Potential access to the equipment of the Odours and VOCs team (FID / PDD / NPD / FPD chromatographs, analysers, dynamic olfactometer)



PTR-TOF-MS (Ionicon)



TD-GC-MS-O (Perkin Elmer)

Platform founded by



Research Centers:

- *C2MA Materials and Civil Engineering*
- *LGEI Environment and Risks*
- *LGI2P Artificial Intelligence and Systems Engineering*

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**You want to
develop a project ?**

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