Curriculum Vitae – Pascal Gerbaux (PhD)



Present position:
Full Professor
Honorary FRS-FNRS Senior Research Associate (Maître de recherche)
Head of the laboratory (> 20 people)
Organic Synthesis and mass Spectrometry Laboratory
University of Mons

Academic qualifications:
1996-2000: Research Fellow of the Belgian National Fund for Scientific Research (FNRS).
2000-2003: Post-doctoral Researcher of the Belgian National Fund for Scientific Research
2000: Postdoctoral stay at the McMaster University (Canada – Prof J K Terlouw)
2001 : Post-doctoral stay at the University of Washi ngton (USA – Prof F Turecek)
2002: Post-doctoral stay at the Ecole Polytechnique de Palaiseau (France – Prof G Bouchoux)
2005: Post-doctoral stay at the University of Utrecht (The Netherlands – Prof A Heck)
2003-2013: Research Associate of the Belgian National Fund for Scientific Research (FNRS).
2008-2013 : lecturer at the University of Mons.
2008-2013: head of the Mass Spectrometry Research Group at UMONS
2010-2012: Visiting professor at the Vietnamese Academy of Sciences and Technologies (Hanoi / Vietnam)
2013-2013: Senior Research Associate of the Belgian National Fund for Scientific Research
2013: Honorary Senior Research Associate of the Belgian National Fund for Scientific Research
2013-2016 : Associate Professor at the University of Mons
2013 : Head of the Organic Synthesis and Mass Spectrometry Lab at UMONS
2013 & 2015: Visiting Professor at the University of Cagliari (Italy)
2015- : vice-chairman of the Belgian Society for Mass Spectrometry
2016-2021 : Professor UMONS
2016 : vice-Dean of the Faculty of Sciences at UMONS
2016-2017-2018: invited professor at the University of Ouagadougou (Burkina Faso)
2018- : chairman of the UMONS division of the "Société Royale de Chimie"
2020 : member of the editorial board of "Molecules"
2021- : Full professor (Professeur Ordinaire) at UMONS
2022 : Associate editor of 'Frontiers in Chemistry"
2022-26 : vice-Dean of the Faculty of Sciences at UMONS

Teaching activities:

- Organic chemistry (BAB1 chemistry & biology)
- Advanced organic chemistry (BAB3 chemistry)
- Organic synthesis (MA1 chemistry)
- Organometallic chemistry (MA2 chemistry)
- Organic molecule structural characterization (BAB3 chemistry & MA1 chemical engineer)
- Organic Mass Spectrometry (MA1 chemistry)
- Advanced mass spectrometry (MA2 chemistry)
- Biomolecular mass spectrometry (MA1 chemistry)

Total : 165 hours (teaching) for more than 300 students/year

Research

My research studies are related to organic chemistry and mass spectrometry. We are mainly involved in research and development of mass spectrometry methods for organic molecules and macromolecules : (i) fundamental research on mass spectrometry, (ii) natural product analysis and biomass valorization, and (iii) organic synthesis of molecules with targeted applications.

Mass Spectrometry facility

Starting from 2008, I am the only responsible of the organic MS facilities at UMONS that is a fully self-funded platform (including instrument acquisition, upgrade and maintenance). The platform is currently constituted by a Waters Select Series cIMS, a Waters Synapt G2-Si, a Waters MALDI QToF Premier, a Waters QtoF Premier (LC-MS), a Waters QToF API-US (LC-MS), an Agilent SQ GC-MS (GC-MS) and a Waters GCT Premier (GC-HRMS) mass spectrometers.

The acquisition of the instruments is mostly based on research projects (FNRS GE) and the upgrade/maintenance fees are secure in the context of analytical services for companies and research centers.

In 2024, UMONS created technological platforms to structure the large equipment landscape and ULYSS, the UMONS Molecular Analysis Platform. I was charged to create the platform and I am now the coordinator.

https://web.umons.ac.be/fr/recherche/equipements-exceptionnels-plateformes-technologiques/ulyss/

PhD promotor or copromoter:

33 PhD thesis from 2010 (10 in progress)

Master thesis promotor :

55 M.Sc. thesis from 2005 (3 in progress)

Grants and fundings (*in progress research in red*)

- *FRS-FNRS / FRFC 2009* – Développement des activités de recherches et d'analyses du centre interuniversitaire de spectrométrie de masse de l'UMH.
- *FRS-FNRS / FRFC 2012* – Synthèse et électrogreffage sur des surfaces d'ITO de copolymères bi- et tri-séquencés originaux associant des structures électroconjuguées à des séquences thermo-éliminables.
- *FRS-FNRS / PDR 2013* – Biologie des symbioses en milieu marin : analyse des signaux chimiques intervenant dans l'installation et la pérennité des associations de type commensale et parasitaire chez les échinodermes
- *FRS-FNRS / GE 2015* - Macromolecular and supramolecular mass spectrometry : in-depth characterization of polymers and non-covalent complexes by state-of-the-art high definition mass spectrometry => Waters Synapt G2-Si acquisition
- *WISD 2016-2020* : Recherches en holothuriculture pour le développement durable des communautés de pêcheurs traditionnels de la zone intertropicale indo-pacifique
- *FEDER – ALGOTECH 2016-2020(21)* : Plateforme intégrée pour l'étude de la filière microalgue
- *INTERREG – ALPO 2016-2020(21)* : Nouveaux matériaux polymères issus de la biomasse microalgue
- *ARC 2018-2022* : Recherche d'une flore optimale par la caractérisation des métabolites secondaires de plantes médicinales et mellifères.
- *ARES-PDR 2020-2024* : Conception d'une micro-bioraffinerie pour la pratique durable du maraîchage au Burkina faso.
- *FRIA PhD grants* : Marie Demeyer (2011) / Thomas Josse (2011) / Corentin Decroo (2014) / Emilie Halin (2015) / Sébastien Delpierre (2016) / Romain Liénart (2016) / Emmanuel Colson (2016) / Sébastien Hoyas (2017) / Philippe Savarino (2019) / Benjamin Tassignon (2020) / Thomas Robert (2022) / Ruth Stella Kamguem Kamga (2025)

- *FNRS PhD grants* : Julien De Winter (2006) / Quentin Duez (2016) / Perrine Weber (2018) / Pauline Blanckaert (2024) / Charlotte Lefebvre (2025)
- Fonds Transition Juste (FTJ) : Integrated Local Energy Systems (ILES) (2024-2028)
- *UMONS PhD grants :* Glenn Carroy (PF ULg - 2012) ; Fabrice Saintmont (2018) ; Sarajit Naskar (PF QUT – 2021) ; Paul Gueben (PF UPC – 2023)
- *FRS-FNRS CR grants* : Quentin Duez (2022-2026)
- *FRS-FNRS / PDR 2021* – Original Heteroaryl Azo-Functionalized Peptoids As High-Energy Density Solar Thermal Fuels
- *ARC 2023-2027* : MOlecular Solar Thermal systems : from molecules to energy capture/exchange prototypes
- *Win4expertise* : projet RW Autofocus with AVEDIS (2024-2025)
- *FRS-FNRS / GE 2025* - Advanced Conformational and Configurational Analysis through High-Resolution Cyclic Ion Mobility Structural Mass Spectrometry and State-of-the-Art Computational Chemistry => Waters Select Series cIMS acquisition

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Awards:
-Price of the Belgian Royal Society of Chemistry for the Undergraduate Thesis (1996).
-Dr Bert Schraam Achievement award from the Dutch Society for Mass spectrometry (The Netherlands – 2003)
-Guest Editor for the *European Journal of Mass Spectrometry* special issue dedicated to Prof Robert Flammang (2003)
- the lab members received more than 25 prizes and awards from 2013 (IJMS best student paper 2019, JMS Award 2020, Braekman SRC prize 2019, Incentive Awards, C.G.B.-C.B.B. 2019, numerous best oral/poster communication prizes in international meetings…)

Scientific activity indicators:
Publications in peer-review journals: 276 (in Scopus)
Citations: 5972 (Scopus) / 7573 (Google Scholar)
H-index: 41 (Scopus) / 46 (Google Scholar)
Communications in (inter)national conferences: > 80

Administrative tasks
Head of the S^2MOs lab (teaching & research/lab management)
Member of the Chemistry Department Board
Member of the Faculty of Sciences Board
Member of the UMONS Biosciences Research Institute board
Member of the UMONS Research Institute for Materials Science and Engineering board
Member of the Belgian Society for Mass spectrometry - BSMS board (vice-chairman)
Member of the Société Royale de Chimie - SRC board (UMONS representative)
Vice-Dean of the faculty of Sciences (2022-26)

Peer-review & evaluation activities:
- 140 papers from 2008
- Member of the FRIA committee (2008-2018)
- Expert for FRS-FNRS projects

- Expert for ANR projects

PhD committee members

> 76 participations including

- 14 abroad (Australia 2015 / Burkina Faso 2011, 2013 & 2024 / France 2017, 2020, 2021 (x2), 2024, 2023 (x2), 2024 / Italy 2020 / Scotland 2022/ Pays-Bas 2025)
- 2 HDR (Sorbonne University 2019 & 2021)
- ULB (2007, 2008, 2010, 2011, 2014, 2015, 2016, 2018, 2023) / KULeuven (2006 / 2016 / 2018) / UNamur (2020) / ULiège (2018) / UAntwerp (2019 & 2021)

Meeting organization committee:

- *Belgian Society for Mass Spectrometry Meeting :*
    - Local organizing committee : UMONS (1998/2011/2025)
    - Scientific program committee : UCL (2010) / UAntwerpen (2013) / GSK (2014) / VUB (2015) / KULeuven (2017) / ULiège (2018) / UCB Pharma (2022)
- *NVMS-BSMS Meeting :*
    - Scientific program committee : Rolduc (2009/2012/2016/2019/2024/2026)
- *IMSC Meeting :*
    - Scientific program committee : Firenze 2018 + chairman of the Natural Products session
- *Société Royale de Chimie (SRC) meeting :*
    - Local organizing committee : UMONS (2018) / UMONS (2024)
    - Scientific program committee : UNamur (2019) / ULB (2020)
