Sven Van Bael

PROFILE

I'm a former (post)doctoral researcher with an interest in data analysis and visualisation.

My expertise lies in interpreting large multi-dimensional datasets using the R programming language, RStudio and Quarto. Using statistical methods, I can transform raw values into valuable insights and conclusions.

I enjoy the challenge of creating clean, comprehensible, and impactful data visualizations, facilitating the communication of results to various audiences (specialists, colleagues, students, and the broader public)

RELEVANT SKILLS

- Analysis of relatively large multi-dimensional datasets.
- Experience with the R programming language and associated packages for data importing (*readr*, *readxl*), structuring (*tibble*, *tidyr*, *forcats*), processing (*dplyr*, *magrittr*), and visualization (*ggplot2*).
- Knowledge of linear statistic models for hypothesis testing.
- String pattern recognition using regular expressions and the R package *stringr*.
- Experience with Quarto for creating reports and websites.
- Familiar with Shiny and PowerBI for developing interactive dashboards.

LANGUAGES

DUTCH *(mother tongue)*
- Speaking ●●●●●
- Reading ●●●●●
- Writing ●●●●●

ENGLISH
- Speaking ●●●●●
- Reading ●●●●●
- Writing ●●●●●

GERMAN
- Speaking ●●○○○
- Reading ●●●○○
- Writing ●○○○○

FRENCH
- Speaking ●○○○○
- Reading ●○○○○
- Writing ●○○○○

WORK EXPERIENCE

Post-doctoral researcher – University of Antwerp
Nov. 2020 – Oct. 2023

Centre for Proteomics
Supervisor: Prof. Dr. Geert Baggerman

My research interests involved the potential alternative processing of neuropeptides by proprotein convertases and optimising a timsTOF Pro instrument to detect these low-abundant alternative neuropeptides.

Post-doctoral researcher – KU Leuven
Jan. 2019 – Oct. 2023

Research group of Molecular and Functional Neurobiology
Supervisor: Prof. Dr. Liesbet Temmerman

In this research, I developed DDA/PRM/DIA methods for the detection of endogenous peptides with an orbitrap instrument.

Short research stay at Technische Universität München (DE)
Nov. 2019 and Jul. 2020

Bavarian Center for Biomolecular Mass Spectrometry
Supervisor: Dr. Christina Ludwig

PhD research – KU Leuven
Oct. 2014 – Dec. 2018

Research group of Functional Genomics and Proteomics
Supervisor: Prof. Dr. Liliane Schoofs

Dissertation: Neuropeptidomics in *C. elegans*

EDUCATION

PhD in Biochemistry – KU Leuven
2014 - 2018

Master in Biochemistry and Biotechnology – KU Leuven
2012 – 2014 (Magna cum laude)
Thesis: Metformin-mediated longevity in *Caenorhabditis elegans*

Academic Bachelor in Biochemistry and Biotechnology – KU Leuven
2011 - 2012

Professional Bachelor Pharmaceutical and Biological Laboratory Technology – University College Leuven
2007 - 2011

FIVE SELECTED PUBLICATIONS

(For a complete record of publications, visit ORCID.org/0000-0002-6948-1020)

Van Bael S, Ludwig C, Baggerman G, Temmerman L (2024). Identification and targeted quantification of endogenous neuropeptides in the nematode *Caenorhabditis elegans* using mass spectrometry. In: Schrader M, Fricker L (eds) *Peptidomics. Methods in Molecular Biology*.

Cockx B*, **Van Bael S***, Boelen R, Vandewyer E, Ludwig C, Dalzell JJ, Yang H, Lee J, Beets I, Temmerman L (2023). Mass spectrometry-driven discovery of neuropeptides mediating nictation behavior of nematodes. *Molecular & Cellular Proteomics*.

Preza M, **Van Bael S**, Temmerman L, Guarnaschelli I, Castillo E, Koziol U (2022). Global analysis of neuropeptides in cestodes identifies Attachin, a SIFamide homolog, as a stimulant of parasite motility and attachment. *Journal of Neurochemistry*.

Van Bael S, Watteyne J, Boonen K, De Haes W, Menschaert G, Ringstad N, Horvitz HR, Schoofs L, Husson SJ, Temmerman L (2018). Mass spectrometric evidence for neuropeptide-amidating enzymes in *Caenorhabditis elegans*. *Journal of Biological Chemistry*.

Van Bael S, Zels S, Boonen K, Beets I, Schoofs L, Temmerman L (2018). A *Caenorhabditis elegans* Mass Spectrometric Resource for Neuropeptidomics. *Journal of the American Society for Mass Spectrometry*.

**Authors contributed equally to this work*

INVITED SPEAKER PRESENTATIONS

Quantitative Neuropeptidomics in *C. elegans*. Invited presentation at the Belgian Proteomics Association conference, Liège, **Belgium**, 5 May **2022**.

Targeted Neuropeptidomics in *C. elegans*. Invited speaker op de BayBioMS Advanced MS seminar (21 Oct. **2020**). **Germany**, available online (YouTube: https://www.youtube.com/watch?v=3QzleffNVHo).

Targeted Neuropeptidomics in *C. elegans*. Invited presentation at the EPIC-XS annual consortium member meeting, Davos, **Switzerland**, 29 Jan – 31 Jan **2020**.

Characterization of Neuropeptide-amidating Enzymes in *Caenorhabditis elegans* by Mass Spectrometry. Competitive selection of abstract, presented at the 29th ASMS Sanibel Conference on Mass Spectrometry, Clearwater (FL), **USA**, 19 Jan – 22 Jan **2017**.

COMPETITIVELY OBTAINED GRANTS

European Proteomics Infrastructure Consortium providing access (EPIC-XS)
2019

I was selected for EPIC-XS, a Horizon 2020-funded program providing access to researchers at an international proteomics facility within the European Union. I used this opportunity to develop a targeted neuropeptidomics method for *C. elegans*, in collaboration with Dr. Christina Ludwig at TU München.

Junior postdoctoral fellowship FWO Flanders
Jun. 2020 – Fonds Wetenschappelijk Onderzoek Vlaanderen (FWO Flanders)

Postdoctoral fellowship (three-year period). The success rate that year was 25.7%.

Postdoctoral mandate (PDM)
Jan. 2019 – KU Leuven

Postdoctoral grant (one-year period) for supporting young researchers that apply for a long-term postdoctoral position with an external finance institution. The success rate that year was 35%.

Fellowship IWT Flanders
Jan. 2015 – Agency for Innovation by Science and Technology in Flanders (IWT Flanders)

PhD doctoral grant for strategic fundamental research (four-year period). The success rate that year was 26.5%.