

# Hendrik ‘Henk’ Bierlee

*Post-doctoral Researcher in Computer Science*

*With interests in Optimisation,*

*Constraint Programming, and Satisfiability*

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## Education

- 2012–2016 **BSc. Computer Science**, *Delft University of Technology*, Delft  
**Minor in Literature**, *Vrije Universiteit*, Amsterdam
- 2018–2020 **MSc. Computer Science**, *Uppsala University*, Uppsala, Sweden  
**Dual-degree**, *National Taiwan Normal University*, Taipei, Taiwan  
**MSc. thesis** “The MiniZinc-SAT Compiler” at *Monash University*, Melbourne, Australia
- 2021–2024 **PhD. Computer Science**, *Monash University*  
On “Solving Discrete Optimisation Problems with Satisfiability Solvers”

## Publications

- CPAIOR’22 COUPLING DIFFERENT INTEGER ENCODINGS FOR SAT  
Hendrik Bierlee, Graeme Gange, Guido Tack, Jip J. Dekker, and Peter J. Stuckey
- CPAIOR’24 SINGLE CONSTANT MULTIPLICATION FOR SAT  
Hendrik Bierlee, Jip J. Dekker, Vitaly Lagoon, Peter J. Stuckey, and Guido Tack
- CPAIOR’25 REVISITING PSEUDO-BOOLEAN ENCODINGS FROM AN INTEGER PERSPECTIVE  
Hendrik Bierlee, Jip J. Dekker, and Peter J. Stuckey
- CP’26 (in review) TABLE CONSTRAINTS FOR INTEGER PROGRAMMING  
Hendrik Bierlee, Wout Piessens, Tias Guns, and Peter J. Stuckey

## Experience

- 2025–current **Post-doctoral researcher in Computer Science**, *DTAI, KU Leuven*, Constraint Solving, Explainability  
**Open-source maintainer**, primarily my SAT encoding library, and CPMpy  
**Lectures + content**, *KU Leuven Constraint Solving course*
- 2021–2024 **Teaching Associate + academic integrity**, *Monash University*, Melbourne, Clayton/Suzhou (China)  
*Modelling discrete optimisation problems (FIT5216)*, *Solving discrete optimisation problems (FIT5220)*
- 2016–2017 **Developer/tech lead**, *immidi*, Amsterdam  
B2B marketing applications for Unilever, L’Oréal, and other clients.
- 2015–2018 **Developer**, *Freelance*  
MyBwiser internal sales platform, Wix Paid Membership extension for Mollie

## Research interests

### Optimisation, Constraint Programming, Satisfiability, Integer Programming

Logic-based Benders’ decomposition, constraint modelling, constraint acquisition, explainability, PB solving, computational experiments, fuzz testing

## Technical skills

- Fluent Rust, Python, C++, MiniZinc, JavaScript
- Familiar Java, Haskell, Erlang, SQL, R, C, PHP, Scala, Prolog, Typst, LaTeX
- Tools Linux, Nix, Git/GitHub, CP-SAT/OR-Tools, Gurobi, CaDiCaL, NumPy, AWS

## Other

Program Committee AAI, CPAIOR

Languages Dutch (native speaker), English