BEN VAN BAVEL

Researcher ◇ Mechanical Engineer ◇ Consultant
linkedin.com/in/ben-vanbavel/

PERSONAL PROFILE

Self-motivated mechanical research engineer with a strong background in computational mechanics, statistics, and composite materials. Experienced in leading research projects, funding acquisition, collaborating with industry partners, and developing innovative solutions for complex engineering challenges.

EXPERIENCE

Research Associate March 2025 - Present
Flanders Make @KU Leuven *Leuven, BE*

- Secured €350k funding to valorize PhD research into a statistical software tool for industrial use.
- Collaborated on a short-term valorization project with industrial partners to develop simulation-based reliability assessment software for mechanical product design.
- Managed a €9.6M European research consortium of 15 partners to develop economical and sustainable composite hydrogen storage vessels, and helped secure its funding.
- Supervised 13 MSc theses and 1 early-stage researcher in the field of composite materials, statistical simulation-based design, and reliability assessment.

Doctoral Researcher September 2020 - March 2025

- Led a team of 3 PhD candidates to realize a 4-year VLAIO-funded project named “OptiVAS” on reliable composite hydrogen storage vessels.
- Collaborated with multinational industry partners (CAE software, automotive OEM, manufacturing) to gather requirements and validate research results.
- Developed a novel reliability-based design methodology for composite pressure vessels, reducing material costs by 20% while maintaining safety standards.
- Communicated research findings through 5 journal publications and 7 international conference presentations.

EDUCATION

PhD in Mechanical Engineering *2020 - 2025*
KU Leuven, Belgium
Thesis: Reliability-Based Design of Filament Wound Composite Pressure Vessels: Incorporating Multiscale Spatial Material Variability

MSc in Mechanical Engineering: Aerospace *2015 - 2020*
KU Leuven, Belgium
Grade: Magna Cum Laude

COMPETENCES

Soft Skills	Planning & Organization, Communication, Leadership
Hard Skills	Statistics, Computational Mechanics (FEM/FEA), Composite Materials, Programming
Tools	Python, Siemens NX (CAD), Simcenter 3D (CAE), Nastran, Samcef, Git
Languages	Dutch (Native), English (Fluent), French (Basic)

INTERESTS

Dog walking, playing guitar, reading (non)-fiction, board games, space(flight), building a pumkin chunkin launcher