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# Dra. Ing. Warre Clarys


PhD Researcher at University of Antwerp
Research Foundation Flanders (FWO) • Industrial Vision Lab (InViLab)

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Date of birth: 31 July 2000 • Nationality: Belgian


Young, dedicated researcher fascinated by the intersection of technology and biomedicine. Currently pursuing a PhD on optimizing breast reconstruction using thermography, finite element simulations, and artificial intelligence.

## Research Experience

- **Visiting PhD Researcher** *2026–Present*
  *Tokyo University of Agriculture and Technology – Medical Image Analysis Laboratory* Tokyo, Japan
- **PhD Researcher** *2024–Present*
  *University of Antwerp – Research Foundation Flanders (FWO)* Antwerp, Belgium
- **Researcher** *2023–Present*
  *University of Antwerp – Industrial Vision Lab (InViLab)* Antwerp, Belgium

## Teaching Experience

- **Co-lecturer – Computer-Aided Designing and 3D Modeling** *2025–Present*
  *University of Antwerp*
- **Teaching Assistant – Computer-Aided Designing and 3D Modeling** *2023–2025*
  *University of Antwerp*
- **Teaching Assistant – Computer-Aided Engineering** *2024–2025*
  *University of Antwerp*

## Education

- **MS Electromechanical Engineering Technology** *2021–2023*
  *University of Antwerp* graduated Magna Cum Laude, Best Student of the Year
- **BS Electromechanical Engineering Technology** *2018–2021*
  *University of Antwerp* graduated Cum Laude, P95
- **Secondary Education – Science and Mathematics** *2012–2018*
  *Royal Lyceum of Antwerp*

## Research Grants

- **FWO Grant for a Long Stay Abroad** *2026-2027*
  *Five-month research stay at Tokyo University of Agriculture and Technology* awarded by FWO
- **IEEE Student Travel Grant Award** *2026*
  *IEEE MeMeA Conference in Montevideo, Uruguay* awarded by IEEE
- **FWO Grant for Participation in a Conference Abroad** *2026*
  awarded by FWO
- **FWO PhD Fellowship in Strategic Basic Research (SB)** *2024-2028*
  *Highly competitive and prestigious four-year PhD grant* awarded by FWO

## Honors & Awards

- **1st Place on Dragon's Den Pitch** *2025*
  *part of the TheCompany+ program of the University of Antwerp* awarded by a professional jury
- **Eos Thesis Award** *2023*
  *Flemish award for the best thesis in exact sciences* awarded by Eos Magazine
- **Mtech+ Thesis and Audience Award** *2023*
  *Flemish award for best technological and innovative thesis* awarded by SciMingo and Mtech+
- **Flemish Thesis Award – Longlisted** *2023*
  *Flemish award for the best thesis* awarded by SciMingo
- **Best Student of the Year Award** *2023*
  awarded by University of Antwerp

## Publications

- **2026**

**Conference Proceedings**

– **Clarys W.**, Van Steen R., Verspeek S., Thiessen F., Steenackers G. (2026). Dynamic infrared thermography and computed tomography angiography fusion for DIEP flap perforator selection: a novel measurement system. *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Montevideo, Uruguay, 1–6.

– **Clarys W.**, Verspeek S., De Kerf T., Verstockt J., Vanlanduit S., Thiessen F., Steenackers G. (2026). DIRT-SR38: A real paired cross-sensor thermal sequence dataset for super-resolution in clinical dynamic infrared thermography. *CVPR Workshop on Perception Beyond the Visible Spectrum (PBVS)*, Denver, USA, 7048–7057.

- **2025**

**Journal Articles**

– **Clarys W.**, Evans R., Verspeek S., Verstockt J., Zhang H., Verhoeven V., Tjalma W.A.A., Thiessen F., Steenackers G. (2025). Optimising neural networks for perforator detection in DIEP flap breast reconstruction using dynamic infrared thermography. *Quantitative Infrared Thermography Journal*, 1-11. DOI: 10.1080/17686733.2025.2585417.

– **Clarys W.**, Verspeek S., Verstockt J., Hummelink S., Steenackers G., Thiessen F. (2025). Comparative study of cooling techniques for perforator detection in DIEP flap reconstruction using dynamic infrared thermography. *Journal of Plastic, Reconstructive & Aesthetic Surgery*, 109 (2025), 144–151. DOI: 10.1016/j.bjps.2025.08.018.

– **Clarys W.**, Hotome V., Hummelink S., Verspeek V., Verhoeven V., Tjalma W.A.A., Steenackers G., Thiessen F. (2025). Dynamic infrared thermography in free flap surgery: A systematic review. *JPRAS Open*, 48 (2026), 281–304. DOI: 10.1016/j.jpra.2025.11.027.

– **Clarys W.**, Vallet O., Verstockt J., Zhang H., Verspeek S., Steenackers G. (2025). Thermography in Bike Fitting: A Literature Review. *Sensors*, 25(8):2356. DOI: 10.3390/s25082356.

- **2024**

**Journal Articles**

– Cardenas E., Verstockt J., Verspeek S., **Clarys W.**, Thiessen F., Tondu T., Tjalma W., Steenackers G., Vanlanduit S. (2024). Automated thermographic detection of blood vessels for DIEP flap reconstructive surgery. *International Journal of Computer Assisted Radiology and Surgery*, 19(9), 1733–1741. DOI: 10.1007/s11548-024-03199-8.

**Conference Proceedings**

– Verstockt J., **Clarys W.**, Hillen M., Verspeek S., Bonmarin M., Thiessen F. E. F., Brochez L., Steenackers G. (2024). HypIRskin: Thermography-Guided Device for Diagnosis and Characterization of Skin Cancer Lesions. *MEMEA24 Conference*, Eindhoven, The Netherlands, 26–28 June 2024. DOI: 10.1109/MEMEA60663.2024.10596792.