

CV Wouter Van Gompel

Personal Information

Date of birth: 26th October 1992

Nationality: Belgian

Languages: Dutch, English, French

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Google Scholar: <https://scholar.google.com/citations?user=0wYo2qEAAAAJ&hl=en>

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Short CV

Wouter Van Gompel received his master's in chemistry at Ghent University in 2015 and his Ph.D. in chemistry at Hasselt University (UHasselt) in 2019 for the design, synthesis, and characterization of hybrid organic-inorganic perovskites (HOIPs) with inorganic frameworks spanning the whole range of structural dimensionalities, from 3D to 0D, towards their use in optoelectronics. He was awarded a personal FWO-SB PhD grant by the Research Foundation Flanders (FWO) to carry out this research. During his Ph.D., he was involved as a researcher in a European M-ERA.NET project with partners from Flanders (imec, UHasselt, Flamac) and Switzerland (CSEM, Solaronix). After his Ph.D., he continued to expand his research on HOIPs at UHasselt, funded as a postdoctoral researcher on an FWO-SBO project with partners from imec, UHasselt, UGent, KULeuven, and UAntwerpen. He aided the project coordinator, dr. Laurence Lutsen (imec), with the management of this project. On 01/10/2022, he was granted a personal postdoctoral mandate at UHasselt. During his postdoc, he undertook research stays in Switzerland (EPFL, Prof. M.K. Nazeeruddin) and the UK (University of Cambridge, Prof. Sam Stranks). On 01/10/2023, he was appointed as Assistant Professor (Tenure Track) at UHasselt. He currently acts as supervisor for 4 PhD students at UHasselt and as co-supervisor for 1 PhD student at UHasselt and 1 PhD student at Ghent University.

Education

- 2019** **Ph.D. degree in Chemistry**
Hasselt University, Belgium
- 2015** **Master's Degree in Chemistry** (greatest distinction)
Ghent University, Belgium
- 2013** **Bachelor's Degree in Chemistry** (great distinction)
Hasselt University, Belgium

Employment History

- 2023-** **Assistant professor (Tenure Track)**
Chemistry Department, Hasselt University, Belgium
- 2020-2023** **Postdoctoral Researcher**
Chemistry Department, Hasselt University, Belgium
- 2015-2019** **Ph.D. student**
Chemistry Department, Hasselt University, Belgium

Institutional Responsibilities

- 2022-** **Member of the examination committee for the Master in Materiomics**
- 2022-** **Member of the workgroup marketing for the Master in Materiomics**
- 2022-2023** **Ombudsperson for the Master in Materiomics**
- 2021-** **Member of the Faculty Board of the Faculty of Sciences**
- 2021-** **Member of the Board of the Chemistry Department**
- 2021-2023** **Representative for the postdoctoral researchers in the Board of the Chemistry Department**

Awarded Grants and Fellowships

- 2025-2027** **WEAVE research project (FNRS-FWO-DFG)**
'Singlet and triplet energy transfer In two-dimensional hybrid perovskites' (G0AQV25N).
PIs: Dr. David Beljonne (UMons, supervisor-spokesperson), [Prof. dr. Wouter Van Gompel](#) (UHasselt, supervisor), Prof. dr. Simon Kahmann (TU Chemnitz, supervisor). Granted funding: €475.850 for UHasselt.
- 2023** **FWO senior postdoctoral fellowship**
Awarded for: 'Towards quasi-2D HYbrid PERovskites with enhanced stability and superior optoelectronic properties by tuning structural RIGIDity and intermolecular interactions (HYPERRIGID)' (1206424N). *Note: I did not take up this position as an FWO senior postdoc due to my appointment as an assistant professor (TT) before the starting date of the grant.*

- 2023-2026 FWO Senior Research Project**
 'Tailored crystals on-demand: gaining a full understanding of the crystallization of low-dimensional hybrid perovskites' (GOA8723N).
 PIs: Prof. dr. Kristof Van Hecke (UGent, supervisor-spokesperson), Prof. dr. Peter Adriaensens (UHasselt, supervisor), Prof. dr. Wouter Van Gompel (UHasselt, co-supervisor), Dr. Laurence Lutsen (imec, co-supervisor).
- 2023 FWO grant for a long study visit abroad**
 'Study on the photophysics of novel 2D hybrid perovskites containing tailored organic cations' (V420123N)
 Duration: 3 months
 Host institution: University of Cambridge, UK
 Host: Prof. dr. Sam Stranks
- 2022-2023 Special Research Fund (BOF) Postdoctoral grant (UHasselt)**
 'study on the INfluence of the sTRucturE of the oRganic cation on key Properties of (quasi-)2D hybrid perovskites towards the rational design of Efficient and sTable optoElectRONics (INTERPRETER)'.
 Granted funding: €97.071
- 2021 FWO grant for a short study visit abroad**
 'Designed organic cations for use as interlayers in high-efficiency n-i-p perovskite solar cells' (K221920N)
 Duration: 1 month
 Host institution: École Polytechnique Fédérale de Lausanne, Switzerland
 Host: Prof. dr. M.K. Nazeeruddin
- 2015-2019 FWO Ph.D. Fellowship strategic basic research**
 'Ion substitution in hybrid perovskites: enhancing environmental stability and band gap tuning' (1S17516N)

Supervision of Researchers

Ph.D. students as main supervisor, (expected) graduation year between brackets:

Aleksandra Ciesielska (2027), PhD student at Hasselt University in Belgium

Ediz Garip (2027), PhD student at Hasselt University in Belgium

Robin Erkens (2028), PhD student at Hasselt University in Belgium

Arne Verding (2028), PhD student at Hasselt University in Belgium

Ph.D. students as co-supervisor, (expected) graduation year between brackets:

Stijn Lenaers (2024), PhD student at Hasselt University in Belgium

Paola La Magna (2027), PhD student at Ghent University in Belgium

Postdoctoral researchers as co-supervisor, end of contract between brackets:

Alfonsina Abat Amelenan Torimtubun (2027), Marie-Curie Postdoctoral Fellow, Imec, Belgium

Teaching Activities

- 2024- Coordinator "Business innovation in practice" (4 ECTS), Master in Materiomics**
- 2024- Co-lecturer "Properties of Functional Materials" (5 ECTS), Master in Materiomics**
- 2023- Coordinator "Fundamentals of materials chemistry" (5 ECTS), Master in Materiomics**
- 2023- Co-lecturer "Hybrid Materials & Functional Interfaces" (3 ECTS), Master in Materiomics**
- 2022-2023 Co-lecturer "Fundamentals of materials chemistry" (5 ECTS), Master in Materiomics**
- 2022- Co-lecturer "Physical Organic Chemistry" (5 ECTS), 3rd Bachelor in Chemistry**
- 2021- Co-lecturer "Introduction to Chemistry" (5 ECTS), 2nd Bachelor in Physics**
- 2021- Co-lecturer "Biomolecules" (7 ECTS), 1st Bachelor in Biomedical Sciences**

Prizes and Awards

- 2023** Best poster prize award at the 6th International Conference on Perovskite Solar Cells and Optoelectronics (PSCO-2023), Oxford, UK, 18th-20th September 2023
- 2019** Best poster prize award at the nanoGe Fall Meeting 2019 for the PERFuDe19 symposium, Berlin, Germany, 4th-9th November 2019
- 2015** "Dow Chemicals Company Award" for best student and best thesis as a Master of Science in Chemistry at Ghent University for the graduation year 2015

Peer-Reviewed Publications

23. "Structural rigidity, thermochromism and piezochromism of layered hybrid perovskites containing an interdigitated organic bilayer": Maufort, A.; Van Landeghem, M.; Deutsch, M.; Banks, P.; La Magna, P.; Van Hecke, K.; Cérda, J.; Lutsen, L.; Vanderzande, D.; Quarti, C.; Beljonne, D.; Pillet, S.; Vandewal, K.; **Van Gompel, W.T.M.**, *Chemical Science*, **2025**, DOI: 10.1039/D4SC06637E (IF₂₀₂₃: 7.6)
22. "Engineering the effective mass in 2D perovskites via octahedra distortion": Peksa, P.; Maufort, A.; Baranowski, M.; Surrente, A.; Lutsen, L.; Plochocka, P.; **Van Gompel, W.T.M.**; Dyksik, M., *Journal of Physical Chemistry C*, **2024**, DOI: 10.1021/acs.jpcc.4c05300 (IF₂₀₂₃: 3.3)
21. "Elucidating the Non-Covalent Interactions that Trigger Interdigitation in Lead-Halide Layered Hybrid Perovskites": Maufort, A.; Cerdá, J.; Van Hecke, K.; Deduytsche, D.; Verding, A.; Ruttens, B.; Li, W.; Detavernier, C.; Lutsen, L.; Quarti, C.; Vanderzande, D.; Beljonne, D.; **Van Gompel, W.T.M.**, *ACS Inorganic Chemistry*, **2024**, DOI: 10.1021/acs.inorgchem.3c04536 (IF₂₀₂₃: 4.3)
20. "Pyrene-Based Self-Assembled Monolayer with Improved Surface Coverage and Energy Level Alignment for Perovskite Solar Cells": Lenaers, S.; Lammar, S.; Krishna, A.; Stacchini, V.; Cardeynaels, T.; Penxten, H.; Weijters, C.; Verhage, M.; Ruttens, B.; Maes, W.; D'Haen, J.; Musiienko, A.; Aernouts, T.; Lutsen, L.; Vanderzande, D.; Poortmans, J.; **Van Gompel, W.T.M.**, *Advanced Functional Materials*, **2024**, DOI: 10.1002/adfm.202411922 (IF₂₀₂₃: 18.5)
19. "Surface Modulation via Conjugated Bithiophene Ammonium Salt for Efficient Inverted Perovskite Solar Cells": Zhang, X.; Eurelings, S.; Brancesco, A.; Song, W.; Lenaers, S.; **Van Gompel, W.T.M.**; Krishna, A.; Aernouts, T.; Lutsen, L.; Vanderzande, D.; Creatore, M.; Zhan, Y.; Kuang, Y.; Poortmans, J., *ACS Applied Materials & Interfaces*, **2023**, 15, 40, 46803–46811 (IF₂₀₂₂: 10.383)
18. "Tailoring Interlayer Charge Transfer Dynamics in 2D Perovskites with Electroactive Spacer Molecules": Boeijs, Y.; **Van Gompel, W. T. M.**; Zhang, Y.; Ghosh, P.; Zelewski, S.; Maufort, A.; Roose, B.; Ying Ooi, Z.; Chowdhury, R.; Devroey, I.; Lenaers, S.; Tew, A.; Dai, L.; Dey, K.; Salway, H.; Friend, R. H.; Siringhaus, H.; Lutsen, L.; Vanderzande, D.; Rao, A.; Stranks, S. D., *Journal of the American Chemical Society*, **2023**, 145, 39, 21330-21343 (IF₂₀₂₂: 16.383)
17. "2D and quasi-2D hybrid perovskites containing organic cations with an extended conjugated system: opportunities and challenges": **Van Gompel, W.T.M.**; Lutsen, Laurence; Vanderzande, Dirk, *J. Mat Chem. C*, **2023**, 11, 12877-12893 (IF₂₀₂₂: 8.067)
16. "3D Perovskite Passivation with a Benzotriazole-Based 2D Interlayer for High-Efficiency Solar Cells": Caiazzo, A.; Maufort, A.; van Gorkom, B.T.; Remmerswaal, W.H. M.; Ferrer Orri, J.; Li, J.; Wang, J.; **Van Gompel, W.T.M.**; Van Hecke, K.; Kusch, G.; Oliver, R. A.; Ducati, C.; Lutsen, L.; Wienk, M.W.; Stranks, S.D.; Vanderzande, D.; Janssen, R.A.J., *ACS Appl. Energy Mater.*, **2023**, 6, 7, 3933–3943 (IF₂₀₂₂: 6.959)
15. "Organic ammonium iodide salts as passivation for buried interface enables efficient and stable NiOx based p-i-n perovskite solar cells": Lammar, S.; **Van Gompel, W.T.M.**; Lenaers, S.; Mertens, M.; Hans-Gerd, B.; Desta, D.; Hadipour, A.; Lutsen, L.; Vanderzande, D.; Krishna, A.; Abdulraheem, Y.; Aernouts, T.; Poortmans, J., *Journal of Materials Chemistry C*, **2023**, 11, 8146-8153 (IF₂₀₂₁: 8.067)
14. "Quasi-2D Hybrid Perovskite Formation Using Benzothieno[3,2-b]Benzothiophene (BTBT) Ammonium Cations: Substantial Cesium Lead(II) Iodide Black Phase Stabilization": Denis, P.-H.; Mertens, M.; **Van Gompel, W.T.M.**; Maufort, M.; Mertens, S.; Wei, Z.; Van Landeghem, M.; Gielen, S.; Ruttens, B.; Deduytsche, D.; Detavernier, C.; Lutsen, L.; Grozema, F.; Vandewal, K.; Vanderzande, D., *Advanced Optical Materials* **2022**, 10, 18, 2200788 (IF₂₀₂₁: 10.05)
13. "Tin-lead-metal halide perovskite solar cells with enhanced crystallinity and efficiency by addition of fluorinated long organic cation": Pitaro, M.; Pau, R.; Duim, H.; Mertens, M.; **Van Gompel, W.T.M.**; Portale, G.; Lutsen, L.; Loi, M. A., *Applied Physics Reviews* **2022**, 9, 021407 (IF₂₀₂₁: 19.162)
12. "Light-Induced Charge Transfer in Two-Dimensional Hybrid Lead Halide Perovskites": Van Landeghem, M.; **Van Gompel, W.T.M.**; Herckens, R.; Lutsen, L.; Vanderzande, D.; Van Doorslaer, S.; Goovaerts, E., *The Journal of Physical Chemistry C* **2021**, 125, 33, 18317-18327 (IF₂₀₂₁: 4.126)
11. "Directing the Self-Assembly of Conjugated Organic Ammonium Cations in Low-Dimensional Perovskites by Halide Substitution": Denis, P.-H.; Mertens, M.; **Van Gompel, W.T.M.**; Van Hecke, K.; Ruttens, B.; D'Haen, J.; Lutsen, L.; Vanderzande, D., *Chemistry of Materials* **2021**, 33, 13, 5177-5188 (IF₂₀₂₁: 9.811)
10. "Study on the dynamics of phase formation and degradation of 2D layered hybrid perovskites and low-dimensional hybrids containing mono-functionalized oligothiophene cations": **Van Gompel, W.T.M.**; Herckens, R.; Mertens, M.; Denis, P.-H.; Ruttens, B.; D'Haen, J.; Van Hecke, K.; Lutsen, L.; Vanderzande, D., *ChemNanoMat* **2021**, 7, 9, 1013-1019 (IF₂₀₂₁: 3.820)
9. "2D layered perovskite containing functionalised benzothieno-benzothiophene molecules: formation, degradation, optical properties and photoconductivity": **Van Gompel, W.T.M.**; Herckens, R.; Denis, P.-H.; Mertens, M.; Gélvez-Rueda, M.C.; Van Hecke, K.; Ruttens, B.; D'Haen, J.; Grozema, F.; Lutsen, L.;

Vanderzande, D., *Journal of Materials Chemistry C* **2020**, 8, 7181-7188 (IF₂₀₂₀: 7.393)

8. "Inducing charge separation in solid-state two-dimensional hybrid perovskites through the incorporation of organic charge-transfer complexes": Gélvez-Rueda, M.C.; **Van Gompel, W.T.M.**; Herckens, R.; Lutsen, L.; Vanderzande, D.; Grozema, F., *The journal of physical chemistry letters* **2020**, 11, 3, 824-830 (IF₂₀₂₀: 6.475)
7. "Lead-halide perovskites meet donor-acceptor charge-transfer complexes": Marchal, N.; **Van Gompel, W.T.M.**; Gélvez-Rueda, M.; Vandewal, K.; Van Hecke, K.; Boyen, H.-G.; Conings, B.; Herckens, R.; Maheshwari, S.; Lutsen, L.; Quarti, C.; Grozema, F.; Vanderzande, D.; Beljonne, D., *Chemistry of Materials* **2019**, 31, 17, 6880–6888 (IF₂₀₁₉: 9.567)
6. "Towards 2D layered hybrid perovskites with enhanced functionality: introducing charge-transfer complexes via self-assembly": **Van Gompel, W.T.M.**; Herckens, R.; Van Hecke, K.; Ruttens, B.; D'Haen, J.; Lutsen, L.; Vanderzande, D., *Chemical Communications* **2019**, 55, 2481-2484 (IF₂₀₁₉: 5.996)
5. "Low-dimensional hybrid perovskites containing an organic cation with an extended conjugated system: tuning the excitonic absorption features": **Van Gompel, W.T.M.**; Herckens, R.; Van Hecke, K.; Ruttens, B.; D'Haen, J.; Lutsen, L.; Vanderzande, D., *ChemNanoMat* **2018**, 5, 3, 323-327 (IF₂₀₁₈: 3.431)
4. "Multi-layered hybrid perovskites templated with carbazole derivatives: optical properties, enhanced moisture stability and solar cell characteristics": Herckens, R.; **Van Gompel, W.T.M.**; Song, W.; G.-R., M.C.; Maufort, A.; Ruttens, B.; D'Haen, J.; Grozema, F.; Aernouts, T.; Lutsen, L.; Vanderzande, D., *Journal of Materials Chemistry A* **2018**, 6, 45, 22899-22908 (IF₂₀₁₈: 10.81)
3. "Degradation of the Formamidinium Cation and the Quantification of the Formamidinium–Methylammonium Ratio in Lead Iodide Hybrid Perovskites by Nuclear Magnetic Resonance Spectroscopy": **Van Gompel, W.T.M.**; Herckens, R.; Reekmans, G.; Ruttens, B.; D'Haen, J.; Adriaensens, P.; Lutsen, L.; Vanderzande, D., *The Journal of Physical Chemistry C* **2018**, 122, 8, 4117–4124 (IF₂₀₁₈: 4.43)
2. "Aqueous solution–gel precursors for LiFePO₄ lithium ion battery cathodes, their decomposition and phase formation": Vranken, T.; **Van Gompel, W.T.M.**; D'Haen, J.; Van Bael, M.K.; Hardy, A., *Journal of Sol-Gel Science and Technology* **2017**, 84, 198–205 (IF₂₀₁₇: 1.745)
1. "Titania Nanocrystal Surface Functionalization Through Silane Chemistry for Low Temperature Deposition on Polymers": Watté, J.; **Van Gompel, W.T.M.**; Lommens, P.; De Buysser, K.; Van Driessche, I., *ACS Applied Materials & Interfaces* **2016**, 8, 43, 29759–29769 (IF₂₀₁₆: 7.504)

Contributed talks at International Conferences

2024 **MRS Spring Meeting 2024** (Seattle, U.S.)

Interlayer Charge Transfer in 2D Hybrid Perovskites Containing Electroactive Ligands towards Enhanced Charge Carrier Transport

2024 **MATSUS 2024** (Barcelona, Spain)

Tailored Spacer Cations for Interlayer Charge Transfer in 2D Hybrid Perovskites

2023 **MATSUS 2023** (Valencia, Spain)

A Conjugated Rigid Organic Cation for HOIPs with Enhanced Stability and Optoelectronic Properties

2022 **ICSM 2022** (Glasgow, UK)

Low Dimensional Organic-Inorganic Hybrid Perovskites containing Organic Chromophores and Organic Charge Transfer Complexes

2022 **Next-Generation V + PV Materials** (Groningen, The Netherlands)

Enhancing the stability of hybrid perovskites using a polyheterocyclic aromatic ammonium cation

2022 **SPIE Photonics Europe** (Strasbourg, France)

Functional organic cations in low-dimensional hybrid organic-inorganic perovskites: charge transfer processes

2021 **MRS Fall Meeting 2021** (online)

A Study on the Phase Formation Behavior of 2D Layered Perovskites and Low-Dimensional Hybrids Containing Oligothiophene Derivatives

2021 **ACS Fall 2021** (online)

Low-dimensional functionalized hybrid inorganic-organic perovskites: A new class of versatile semiconductors for optoelectronic applications?

2021 **13th Conference on Hybrid and Organic Photovoltaics (HOPV21)** (online)

The Dynamics of Phase Formation and Degradation of 2D Layered Hybrid Perovskites and Low-dimensional Hybrids Containing Mono-functionalized Oligothiophene Cations

2020 **nanoGe Fall Meeting 2020 (OnlineNFM20)** (online)

2D layered perovskite containing functionalised benzothieno-benzothiophene molecules: formation, degradation, optical properties and photoconductivity

- 2019 nanoGe Fall Meeting 2019** (Berlin, Germany)
Towards a Functional Organic Layer for Low-Dimensional Hybrids
- 2019 International Conference on Organic Electronics (ICOE) 2019** (Hasselt, Belgium)
Functional low-dimensional hybrid perovskites through the incorporation of charge-transfer complexes
- 2019 E-MRS Spring Meeting 2019** (Nice, France)
Extending the functionality of low-dimensional hybrid perovskites through the incorporation of charge-transfer complexes

Organization of workshops and summer schools

- 2024 Co-organizer of the Summer School in Materiomics (UHasselt)**

Reviewing activities

Peer reviewer for ACS (applied electronic materials, applied energy materials, inorganic chemistry, chemistry of materials), RSC (Nanoscale Horizons, Journal of Materials Chemistry A and C, Chemical Science), and Wiley (Advanced Materials, Advanced Functional Materials, Small). I was selected as an '**outstanding reviewer**' for the RSC journal Nanoscale Horizons in 2023.