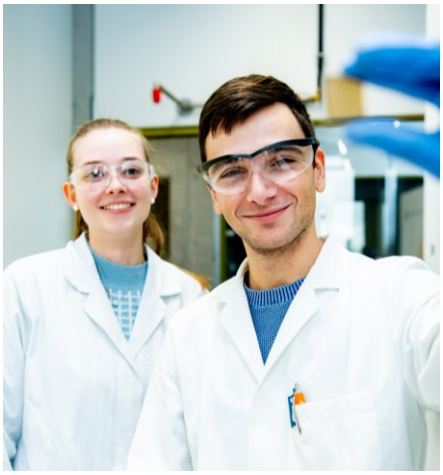
SUMMER SCHOOL / 7-9 JULY 2025

MATERIOMICS: INNOVATIVE MATERIALS FROM HEALTHCARE ACROSS QUANTUM TO SUSTAINABLE TECHNOLOGIES

FACULTY OF SCIENCES, MASTER OF MATERIOMICS
HASSELT UNIVERSITY, DIEPENBEEK, BELGIUM

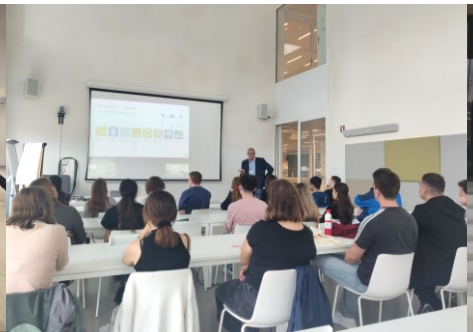
FACULTY OF SCIENCES
UHASSELT
MASTER MATERIOMICS

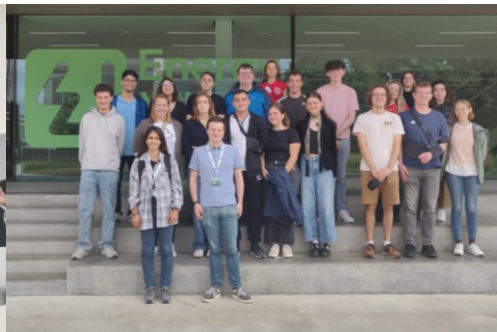


Modern materials science requires an interdisciplinary approach embracing chemistry and physics, as well as experimental and computational methods for addressing the most critical technological challenges in the world today and in the future, including climate change, pandemics, energy transition, safe communication technologies, etc. This summer school, organized by the Master of Materiomics (Hasselt University), introduces students to materials, their design, their properties and their applications with respect to the forementioned grand challenges. Particular focus is on innovative materials for energy generation, storage and efficiency, sustainable materials for circular processes, high-tech materials for quantum technologies and advanced materials for innovative healthcare.

The summer school targets 2nd and 3rd year bachelor students from various departments (e.g. materials science, physics, (bio)chemistry, (bio)engineering) who want to get acquainted with state-of-the-art research in materials science explained at bachelor level. Among all the applications, up to 25 B.Sc. students will be selected for the summer school based on their motivation and curriculum vitae.

The three-day summer school covers lectures and hands-on sessions, which are held on campus Diepenbeek of Hasselt University, and a visit to EnergyVille (Thorpark, Genk) which is a state-of-the-art research facility with activities focusing on renewable energy and intelligent energy systems. The students will also have the opportunity to interact with young researchers working in the Institute for Materials Research (imo-imomec). Besides the learning activities, there will be ample time for social activities to enjoy the Diepenbeek campus and the city of Hasselt, including a BBQ, a visit to Hasselt, and a closing reception.





In this summer school, professors and researchers of Hasselt University as well as international guest speakers will cover subjects on innovative materials design. On the first day, there will be a welcoming session, followed by lectures related to materials for energy generation, storage and efficiency, and in the afternoon a visit with lab tour to EnergyVille. On the second day materials for quantum technologies as well as sustainable materials will be addressed via lectures and time to visit the high-tech infrastructure of the UHasselt Science Tower. On the last day lectures and a practical session will give insights in materials for innovative healthcare. Also a poster session is organised with the possibility to network with researchers from the university and the Institute for Materials Research working in the field of materials science (physics and (bio)chemistry). The summer school will conclude with a recap session and a farewell reception.

Summer school deadlines

Application submission	07 May 2025
Applicant notification	12 May 2025
Applicant registration	01 June 2025

How to apply ?

Please send your application to materiomics@uhasselt.be along with a 1-page motivation letter and curriculum vitae. The applicants selected for the summer school will be informed about possible accommodation, and the final summer school program around 12 May 2025.

Summer school Chair

Prof. dr. ir. Koen Vandewal

Budget, travel & accommodation

- 50 euros registration fee which includes participation to the summer school, bus transfer to EnergyVille, coffee and lunch breaks, social activities with dinner, farewell reception
- Accommodation in hostel (shared rooms with breakfast) in Hasselt offered by the organization
- Travel costs at your own expenses

Administrative coordination & contact

Dr. Dorien Baeten & Dr. Sarah Doumen
materiomics@uhasselt.be

Master of Materiomics

The Master of Materiomics (120 ECTS) aims to educate students to develop new, innovative & sustainable materials focusing on one of the four specializations: materials for quantum technologies, energy, circularity and advanced healthcare. Bachelor students (NL) with a background in chemistry or physics can enroll in the program.

For more information:
www.uhasselt.be/materiomics

In collaboration with

FACULTY OF SCIENCES
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MASTER MATERIOMICS

EURECA • PRO
EUROPEAN UNIVERSITY

Energy Ville

IMO-IMOMEC
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	Monday 07.07	Tuesday 08.07	Wednesday 09.07
	Energy	Quantum & Circularity	Health
08:30-09:00	Registration		
09:00-09:30	Welcome & practical info	Quantum computing **Prof. dr. Petr Siyushev**	BIO INKS as the key to 3D printing of cells and tissues. **Dr. Jasper Van Hoorick (BIO INX)**
09:30-10:00	(Porous) Electrode Engineering for Energy Storage and Conversion **Prof. dr. ir. Momo Safari**		
10:00-10:30	Plasmon catalysis as key enabler for sunlight-powered conversion of CO_2 **Prof. dr. Pascal Buskens**	Practical quantum mechanical calculations: beyond the Schrödinger equation **Prof. dr. dr. Danny Vanpoucke**	Titanium surface modification: electrochemical methods, surface analysis and biomedical requirements **Prof. dr. Alicja Kazek-Kęsik (Silesian university of technology)**
10:30-11:00	Coffee break	Coffee break	Coffee break
11:00-11:30	Practical AI for materials science **Dr. ir. Michael Sluydts (EPotentia)**	Quantum sensing **Prof. dr. Anna Ermakova**	Encoding materials in genes: an introduction to protein-based biomaterials **Prof. dr. Geert-Jan Graulus**
11:30-12:00		Oscar-Qube **Dr. Jaroslav Hruby**	Poster session
12:00-12:30	Lunch	Lunch	
12:30-13:00	Transfer to bus		Lunch
13:00-13:30	Visit to EnergyVille labs	Visit to Science Tower	Practical session - Unleashing nature's toolbox: Dive into protein-based biomaterials **Prof. dr. Geert-Jan Graulus**
13:30-14:00		The origins and future of our plastic pollution crisis **Prof. dr. Louis Pitet**	
14:00-14:30		Coffee break	
14:30-15:00		Recycling of Li-ion batteries: direct solutions **dr. Jeroen Spooren (VITO)**	
15:00-15:30			
15:30-16:00		Circular Material Loops for a Sustainable Future **Dr. Richard Vendamme (VITO)**	
16:00-16:30			Closure & farewell reception
16:30-17:00	Social activity	Social activity	
17:00-…			

V.U.: Sarah Doumen, p/a Universiteit Hasselt, Martelarenlaan 42, 3500 Hasselt