Nathan Carpentier

Personal

Address:	Van de Reydtlaan 57
Postcode:	2960
Town:	Brecht
Tel. number:	+32 479 22 33 09/ +32 3 289 67 91
Email:	Nathan.Carpentier@UGent.be
Date of Birth:	8 January 1994
Nationality:	Belgian

Education

2017 - 2023	PhD candidate in Polymer Chemistry (FWO-SB mandate) Polymer Chemistry and Biomaterials (PBM) research group Ghent University Hydrogel development for liver tissue engineering
2015 - 2017	Master of Science: Chemistry Antwerp University Master thesis: Organic Chemistry at Johnson & Johnson (Beerse)
2012 - 2015	Bachelor of Science: Chemistry Antwerp University Bachelor thesis: Heterogeneous catalysis at the LADCA research group
2006 - 2012	Sciences-Mathematics (ASO) Sint-Michielscollege (Schoten)

Languages

Dutch:	Mother tongue
English:	Very good
French:	Sufficient

Experience

2023 - 2025	Treasurer of the European Young Chemists' Network (EYCN)
2023 (October – December)	Research stay at the Soft Tissue Engineering and Medicine (STEAM) (Utrecht University, The Netherlands)

2022 - 2023	Science Team Leader of the European Young Chemists' Network (EYCN)
2022 (February – August)	Research stay at the Roger Williams Institute of Hepatology (King's College, London).
2018 - 2025	National Delegate and part of the Science team of the European Young Chemists' Network (EYCN)
2018 - 2022	President of the youth section of the Royal Flemish Chemical Society (KVCV)
2018 – 2020	President of the Chemistry Conference for Young Scientists (ChemCYS)
2017 - 2022	Board Member of the youth section of the Royal Flemish Chemical Society (KVCV)
2017 (February- August)	Internship at the R&D department (infectious diseases) of Johnsen & Johnsen in the framework of my Master thesis

Work and research experience

2025 – 2028	FWO junior postdoc fellowship in Polymer Chemistry Polymer Chemistry and Biomaterials (PBM) research group Ghent University Bioprinting for liver tissue engineering
2023 – 2025	Postdoctoral Research Fellow in Bioprinting for Regenerative Medicine. Regenerative Medicine and Cellular Therapies (RMCT) research group University of Nottingham Developing an intestinal patch
2023 (May – December)	Postdoctoral researcher in Polymer Chemistry Polymer Chemistry and Biomaterials (PBM) research group Ghent University Hydrogel development for liver tissue engineering

Publications

N. Carpentier, L. Van Der Meeren, A. G. Skirtach, L. Devisscher, H. Van Vlierberghe, P. Dubruel, S. Van Vlierberghe, Gelatin-based Hybrid Hydrogel Scaffolds: Toward Physicochemical Liver Mimicry. Biomacromolecules, 2022

N. Carpentier, L. Urbani, P. Dubruel, S. Van Vlierberghe, The native liver as inspiration to create superior in vitro hepatic models. Biomaterials Science, 2022

E. De Vlieghere, K. Van de Vijver, E. Blondeel, N. Carpentier, et al. A preclinical platform for assessing long-term drug efficacy exploiting mechanically tunable scaffolds colonized by a three-dimensional tumor microenvironment. Biomaterials research, 2023

L. Parmentier, S. D'Haese, N. Carpentier, et al. Bottom-Up Extrusion-Based Biofabrication of the Osteoid Niche. Macromolecular Bioscience, 2024
N. Carpentier, S. Ye, L. Van der Meeren, André G. Skirtach, L. van der Laan, K. Schneeberger, B. Spee, P. Dubruel, S. Van Vlierberghe, Gelatin-based hybrid hydrogels as matrix in organoid culture. Biomacromolecules, 2024

N. Carpentier, L. Parmentier, L. Van Der Meeren, A. G. Skirtach, P. Dubruel, S. Van Vlierberghe, Optimization of hybrid gelatin-polysaccharide bioinks exploiting thiol-norbornene chemistry using a reducing additive. Biomedical materials, 2024

W. Saleem, N. Carpentier et al. Porcine ex-vivo intestinal mucus has age-dependent blocking activity against transmissible gastroenteritis virus. Veterinary Research. 2024

G. Wu, P. Bian, R. Xu, T. Wang, Z. Li, H. Mao, Y. Tai, C. Wang, Z. Ma, X. Hou, N. Carpentier et al. Electro-thermal responses polymer systems with continuous shape memory alloys: Merging rapid shape memory and color transitions. Chemical Engineering Journal, 2025

A. S. Charkieh, Y. Zhu, S. Huysman, E. Polyzos, A. Quaak, N. Pien, N. Carpentier et al. Multi-modal assessment of recycled polyethylene terephthalate composites in additive manufacturing: The role of carbon fiber. Polymer Composites, 2025

Conference contributions

Development of an in vitro model for drug hepatotoxicity screening through 3D-printing of Gelatin-based scaffolds for HepG2 support. (Poster presentation at BPG annual meeting, May 2018, Blankenberge, Belgium)

Development of an in vitro model for drug hepatotoxicity screening through 3D printing of Gelatin-based scaffolds for HepG2 and hSKP cell support. (Poster presentation at the BSTE conference, November 2018, Ghent, Belgium)

Development of 3D-printed gelatin-based hydrogel scaffolds for hepatocyte support. (Poster presentation at the ESB conference, September 2019, Dresden, Germany)

Development of 3D-printed hydrogel scaffolds for liver tissue engineering. (Oral presentation at the ESB conference, September 2021, turned into a virtual conference)

Towards bioartificial liver constructs by 3D-printing of ECM mimicking scaffolds. (Poster presentation at the BSTE conference, November 2021, Louvain-la-Neuve, Belgium)

Development of hybrid hydrogel scaffolds for liver tissue engineering. (Oral presentation at the TERMIS conference, November 2021, turned into a virtual conference)

Development of ECM mimicking 3D-hydrogel scaffolds for liver tissue engineering. (Poster presentation at

the EASL conference, June 2022, London, United Kingdom)

Hybrid 3D-printed hydrogel scaffolds for liver tissue engineering. (Oral presentation at the TERMIS conference, June 2022, Krakau, Poland)

ECM mimicking hydrogel scaffolds for liver tissue engineering. (Poster and flash presentation at the ESB conference, September 2022, Bordeaux, France)

Development of Biopolymer-based Ink Formulations for Liver Tissue Engineering. (Oral presentation at BPG, May 2023, Houffalize, Belgium)

Biopolymer-based hybrid hydrogel inks serving liver tissue engineering. (Poster presentation at ESB, September 2023, Davos, Switzerland)

Spatial patterning of proteins into gelatin-based thiol-norbornene networks. (Poster presentation at UoN polymer symposium, April 2024, Nottingham, UK)

Towards the development of an intestinal patch mimicking the in vivo micro-architecture using high resolution 2PP printing. (Oral presentation at UpNano customer event, May 2024, Vienna, Austria)

Microscale peptide grafting serving intestinal tissue engineering. (Poster presentation at Alpine Winter School for Biofabrication, January 2025, Radstadt, Austria)

Microscale peptide grafting serving intestinal tissue engineering. (Oral presentation at ESB, September 2025, Turin, Italy)

Certificates

2019	Laboratory Animal Sciences (LAS) Certificate – FELASA C Faculty of Veterinary Medicine, Ghent University

Awards

2024	NC3Rs Public Engagement Award
2024	Julia Polak European Doctorate Award
2022	Racquel LeGros Award