

CURRICULUM VITAE

PERSONAL DATA

Name Prof. Dr.-Ing. Laura De Laporte
Date/Place of Birth 03.12.1980, Gent, Belgium
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WORK EXPERIENCE

09/2018 – current W2 Professor, Teaching and Research Area ‘Advanced Materials for Biomedicine’, Chemistry Department RWTH, joined appointment with DWI and Institute of Applied Medical Engineering, UKA RWTH Aachen, DE
03/2019 – current Fellow of the Max Planck School – Matter to Life
10/2013 – 08/2018 Group leader at DWI-Leibniz Institute for Interactive Materials, Aachen, DE
07/2009 – 09/2012 Postdoctoral Research, Laboratory of Prof. Jeffrey Hubbell, Life Sciences – Ecole Polytechnique Fédérale de Lausanne, Switzerland
09/2003 – 08/2004 Research assistant, Laboratory of Prof. Lonnie Shea, Department of Chemical and Biological Engineering – Northwestern University (NU), Evanston, US

EDUCATION

10/2017 Privatdozentin RWTH - Chemie
09/2004 – 06/2009 PhD, Department of Chemical and Biological Engineering – NU, Evanston, US; *Multiple channel bridges with the ability for DNA and protein delivery for spinal cord regeneration* Promoter: Prof. Lonnie Shea - GPA: 4.0/4.0
09/1998 – 06/2003 Bachelor and Masters in Chemical Engineering – Ghent University, BE; *Great Distinction*

BOARDS

2022 – current Steering Committee, GKR2145 Mechanobiology
2020 – current Scientific Advisory Board, Advanced Healthcare Materials
2021 – current Board of Directors, International Society for Biofabrication ISBF
2021 – current ENLIGHT Advisory Board Member, Utrecht University
2020 – 2021 Associated Editor, ACS Advanced Materials and Interfaces

GRANTS

01/2023 – 12/2026 EU Marie Skłodowska-Curie Doctoral Network 101073374 ReWire: Technology-driven combinatorial therapy to rewire the spinal cord after injury (781,617 €, part for my research group)
10/2022 – 09/2027 EU ERC CoG 101043656 Heartbeat: 3D-assembly of interactive microgels to grow in vitro vascularized, structured, and beating human cardiac tissues in high-throughput (2,969,219 €)
06/2022 – 05/2025 SAW Transfer Leibniz 111/2021 with IPF and INM: μ Tissuefab: Multiphasic hydrogels for high throughput human in vitro tissue and disease models, with Prof. Carsten Werner, IPF, and Prof. Arancha del Campo, INM (333,301 €)
01/2022 – 12/2025 Werner Siemens Foundation: TriggerINK: 4D in would printing for functional tissue repair (9,921,562 €, joined grant with Prof. Andreas Herrmann, Prof. Stefan Hecht, and Prof. Matthias Wessling)
10/2021 – 09/2025 New Frontiers in Research Funds (NFRF) Transformations: Mend the Gap (1,900,000 CAD)

- 08/2021 – 07/2024 DFG: Light responsive hydrogels to understand mechanotransduction in cardiac infarctions and muscular dystrophy (230,050 €)
- 08/2021 – 07/2022 ERS RWTH Seed fund: Cell-mimicking Microgels to Model Retinal Epithelium Ageing with Dr. Jacopo di Russo (20,300 €)
- 08/2021 – 02/2023 EU: European Research Council Proof of Concept (POC) BioArchitecture (150,000 €)
- 07/2021 – 06/2024 DFG: CRU5011: Integrating emerging methods to advance translational kidney research (InteraKD), P1: Development of high-throughput platforms for human kidney disease modeling (217,840 €)
- 09/2020 – 08/2023 DFG: Rapid prototyped microfluidic systems for synthesizing and screening of microgel capsules as growth factor delivery systems for angiogenesis (199,650 €)
- 07/2020 – 06/2024 DFG: CRC985 Functional microgels and microgel systems B5: Anisometric microgels to construct 3D responsive macroporous matrices to direct and mechanically trigger cells (334,800 €)
- 07/2020 – 06/2024 DFG: CRC985 Functional microgels and microgel systems C9: Gene regulation enabled by ferro-microgels (334,800 €)
- 07/2020 – 10/2022 IGF: Apartex: Electrospun bi-layer anti-adhesion hydrogel fiber mat to prevent post-operative adhesion (236,190 €)
- 01/2020 – 12/2022 EU: Research and Innovation SC1-BHC-07-2019 OrganTrans (532,725 €)
- 01/2020 – 12/2021 ERS Prep Fund Project – Life Science: Magnetic field-assisted bioprinting for the fabrication of three-dimensional *in vitro* tissue models (195,000 €)
- 10/2020 – 12/2021 ERS RWTH Seed fund: Casein microparticles for sustained drug delivery in regenerative materials with Prof. Twan Lammers and Prof. Ronald Gebhardt (10,800 €)
- 11/2019 – 10/2020 ERS RWTH Seed fund: Actuating hydrogel to mechanically direct stem cell fate, with Sabine Neuss-Stein (67,200 €)
- 08/2019 – 12/2020 EU: European Research Council Proof of Concept (POC 842452) PeriGO: Peripheral nerve Gel-based Orientation (150,000 €)
- 07/2019 – 12/2023 DFG: RTG2415: Mechanobiology in Epithelial 3D Tissue Constructs (ME3T) (235,000 €)
- 06/2018 – 05/2023 SAW Leibniz-Wettbewerb: Professorinnenprogramm (1,667,843 €)
- 06/2018 – 05/2021 Abgel: Development of organspacer to reduce side effects of radiation therapy during prostate cancer (Leitmarkt Agentur NRW: Neue Werkstoffe) (380,831 €)
- 03/2015 – 02/2021 EU: European Research Council (ERC) Starting Grant ANISOGEL, 637853 (1,435,396 €)
- 06/2016 – 05/2020 DFG: CRC985 Functional microgels and microgel systems, B5: Continuous fabrication of rod-shaped microgels to investigate their structural assembly (253,300 €)
- 01/2015 – 12/2018 EU: Marie Skłodowska-Curie Innovative Training Networks BIOGEL, 642687 (747,650 €, part for my research group)
- 07/2015 – 11/2018 DFG: Nachwuchsakademie MatWerk (350,500 €)
- 01/2016 – 12/2016 ERS RWTH Seed fund: Biofunctional hydrogel systems fostering stem cell derived peripheral neurons to study chronic pain disease, with Prof. Angelika Lampert (27,500 €)
- 11/2015 – 05/2017 RWTH: Umbrella project in collaboration with Prof. Avi Schroeder, Technion University, Israel (15,000 €)
- 04/2014 – 05/2016 DFG: CRC985 Functional microgels and microgel systems, ramp-up project (51,000 €)

PUBLICATIONS **WEB OF SCIENCE (27.06.2023: H-INDEX: 26, CITATIONS: 2,570)**

**Authors contributed equally.*

1. Bastard C, Günther D, Gerardo-Nava J, Dewerchin M, Sprycha P, Licht C, Lüken A, Wessling M, **De Laporte L**. How does temporal and sequential delivery of multiple growth factors affect vascularization inside 3D hydrogels? *Advanced Therapeutics* 2023, Accepted.
2. **De Laporte L**, Kiessling F. Transformative medical materials. *Adv. Healthc. Mat.* 2023, Online.
3. Gerardo-Nava JL, Jansen J, Günther D, Klasen L, Thiebes AL, Niessig B, Bergerbit C, Meyer AA, Linkhorst J, Bart M, Akhyari P, Stingl J, Nagel S, Stiehl T, Lampert A, Leube R, Wessling M, Santoro F, Ingebrandt S, Jockenhoevel S, Herrmann A, Fischer H, Wagner W, Schmitt RH, Kiessling F, Kramann R, **De Laporte L**. Transformative materials to create 3D functional human tissue models in vitro in a reproducible manner. *Adv. Healthc. Mat.* 2023, Online.
4. Fernández-Colino A, Kiessling F, Slabu I, **De Laporte L**, Akhyari P, Nagel SK, Stingl J, Reese S, Jockenhoevel S. Lifelike Transformative Materials for Biohybrid Implants: Inspired by Nature, Driven by Technology. *Adv. Healthc. Mat.* 2023, Online.
5. Dasgupta A, Sun T, Palomba R, Rama E, Zhang Y-Z, Power C, Moeckel D, Liu M, Weiler M, Motta A, Barmin A, Graham A, McClelland A, Rommel D, Kiessling F, Pallares RM, **De Laporte L**, Decuzzi P, McDannold N, Mitragotri S*, Lammers T*. Nonspherical ultrasound bubbles. *PNAS* 2023, 120, e2218847120.
6. Boesveld S*, Kittel Y*, Luo Y, Jans A, Oezciftci A, Bartneck M, Preisinger C, Rommel D, Boersma A, Haraszti T, Trautwein C, **De Laporte L***, Kuehne AJC*, Strnad P*. Microgels as platforms for antibody-mediated cytokine scavenging. *Adv. Healthc. Mat.* 2023, e2300695.
7. Sheybanifard M, Guerzoni LPB, Omidinia-Anarkoli A, **De Laporte L**, Buyel J, Besseling R, Damen M, Gerich A, Lammers L, Metselaar JM. Liposome manufacturing under continuous flow conditions: towards a fully integrated set-up with in-line control of critical quality attributes. *Lab on a Chip* 2023, 23, 182.
8. Barmin R, Dasgupta A, Rix A, Weiler M, Appold L, Rutten S, Padilla F, Kuehne A, Pich A, **De Laporte L**, Kiessling F, Pallares R, Lammers T. Enhanced stable cavitation and non-linear acoustic responses of PBCA polymeric microbubbles after bioconjugation. *ACS Biomaterials Science & Engineering* 2022, Online.
9. Suturein AC, Krüger AJD, Neidig K, Klos N, Bund M, Gronemann T, Sebers R, Manukanc A, Yazdani G, Kittel Y, Rommel D, Haraszti T, Köhler J, **De Laporte L**. Assembly of high aspect ratio microgels to vary macropores of 3D cell scaffolds, *Advanced Healthcare Materials* 2022, 11, e2200989.
10. Braunmiller DL, Babu S, Gehlen DB, Seuß M, Haraszti T, Falkenstein A, Eigen J, **De Laporte L***, Crassous J*. Pre-programmed rod-shaped microgels to create multi-directional Anisogels for 3D tissue engineering. *Advanced Functional Materials* 2022, 32, 2202430
11. Friedman F, Babu S, Springer R, Konrad J, Herfs Y, Gerlach S, Gehlen J, Krause H.-J., **De Laporte L**, Merkel R, Noetzel E. ECM-transmitted shear stress induces apoptotic cell extrusion in early breast gland development. *Frontiers in Cell and Developmental Biology* 2022, 10, 947430.
12. Barmin R, Dasgupta A, Bastard C, **De Laporte L**, Rütten S, Weiler M, Kiessling K, Lammers T, Pallares RM. Engineering the acoustic response and drug loading capacity of PBCA-based polymeric microbubbles with surfactants. *Molecular Pharmaceutics* 2022, 19: 3256
13. Guerzoni LPB, de Goes AVC, Kalacheva M, Hadula J, Mork M, **De Laporte L**, Boersma AJ. High macromolecular crowding in liposomes from microfluidics. *Advanced Sciences* 2022, Accepted
14. Babu S, Chen I, Vedaraman S, Gerardo-Nava J, Licht C, Kittel Y, Haraszti T, Russo JD, **De Laporte L**. How do the local physical, biochemical, and mechanical properties of a synthetic Anisogel affect oriented nerve growth? *Advanced Functional Materials* 2022, 32: 2202468
15. Bai X, Sun Q, Guerzoni LPB, Wuttke S, Kiessling F, **De Laporte L**, Lammers T, Shi Y. Controlled covalent self-assembly of a homopolymer for multi-scale materials engineering. *Advanced Materials* 2022, Online
16. Rommel D, Vedaraman S, Mork M, **De Laporte L**. Interlinked macroporous 3D scaffolds from microgel rods. *Journal of Visualized Experiments* 2022,184, e64010
17. Chandorkar Y, Bastard C, Di Russo J, Haraszti T, **De Laporte L**. Cells feel the beat – Temporal effect of cyclic mechanical actuation on muscle cells. *Applied Materials Today* 2022, 27: 101492
18. Jung S-H, Bulut S, Guerzoni LPB, Günther D, Braun S, **De Laporte L**, Pich A. Fabrication of pH-degradable supramolecular microgels with tunable size and shape via droplet-based microfluidics. *Journal of Colloid and Interface Science* 2022, 617: 409

19. Rommel D, Mork M, Vedaraman S, Bastard C, Guerzoni LPB, Kayku Y, Vinokur R, Born N, Haraszti T, **De Laporte L**. Functionalized microgel rods crosslinked into soft macroporous structures for 3D cell culture. *Advanced Science* 2022, e2103554
20. Kittel Y, Kuehne AJC*, **De Laporte L***. Translating therapeutic microgels into clinical applications. *Advanced Healthcare Materials* 2021, e2101989
21. De Keer L, Cavalli F, Estupiñán D, Krüger AJD, Rocha S, Van Steenberge PHM, Reyniers M-F, **De Laporte L**, Hofkens J, Barner L, D'hooge DR. Synergy of advanced experimental and modeling tools to underpin the synthesis of static step-growth-based networks involving polymeric precursor building blocks. *Macromolecules* 2021, 54: 9280
22. Vedaraman S, Perez-Tirado A, Gerardo-Nava J, Haraszti T, Nishiguchi A, **De Laporte L**. Anisometric microstructures to determine minimal critical physical cues required for neurite alignment. *Adv. Healthcare Materials* 2021, 10: e2100874
23. Babu S, Albertine F, Omidinia-Anarkoli A, **De Laporte L**. Controlling structure with injectable biomaterials to better mimic tissue heterogeneity and anisotropy. *Advanced Healthcare Materials* 2021, 10: e2002221
24. Vedaraman S, Licht JC, Bernhagen D, Timmerman P, **De Laporte L**. Bicyclic RGD peptides enhance nerve growth in synthetic PEG-based Anisogels. *Biomaterials Science* 2021, 9: 4329
25. Nothdurft K, Muller DH, Murtz S, Meyer AA, Brands T, Guerzoni LPB, Jahns A, Kuehne AJC, **De Laporte L**, Bardow A, Vedaraman S, Richtering W. Dynamics of the cononsolvency-induced collapse of pNIPAM microgels: A two-step process? *The Journal of Physical Chemistry B* 2021, 125: 1503
26. Duarto Campos D, **De Laporte L**. Digitally fabricated and naturally augmented in vitro tissues. *Advanced Healthcare Materials* 2021, 10: e2001253
27. Gerardo Nava, Jose L., Jonas C. Rose, Haktan Altinova, Paul D. Dalton, **Laura De Laporte**, and Gary A. Brook. Book Chapter "Nanofibers and Nanostructured Scaffolds for Nervous System Lesions." In *Nanomedicines for Brain Drug Delivery*, pp. 61-101. Humana, New York, NY, 2021. DOI: 10.1007/978-1-0716-0838-8_3
28. Lüken A, Linkhorst J, Fröhlingsdorf R, Lippert L, Rommel D, **De Laporte L**, Wessling M. Unravelling colloid filter cake motions in membrane cleaning procedures. *Scientific Reports* 2020, 10: 20043
29. Gehlen DB, Juergens N, George J, Walther A, Ye, **De Laporte L**. Granular cellulose nanofibril hydrogel scaffolds for 3D cell cultivation. *Macromolecular Rapid Communications* 2020, 41: e2000191
30. Rose JC, Gehlen D, Omidinia Anarkoli A, Fölster M, Haraszti T, Jaekel E, **De Laporte L**. How much physical guidance is needed to orient growing axons in 3D hydrogels? *Advanced Healthcare Materials* 2020, 21: e2000886
31. Omidinia Anarkoli A, Ephraim J, Rimal R, **De Laporte L**. Influencing linear neurite extension via hierarchical fibrous guiding cues at different scales. *Acta Biomaterialia* 2020, 113: 350-9
32. Krüger M, Oosterhoff LA, van Wolferen ME, Schiele SA, Walther A, Geijssen N, **De Laporte L**, van der Laan LJW, Kock LM, Spee B. Cellulose Nanofibril Hydrogel Promotes Hepatic Differentiation of Human Liver Organoids. *Adv. Healthc. Mater.* 2020, e1901658
33. Wolff HJM, Linkhorst J, Göttlich T, Savinsky J, Krüger AJD, **De Laporte L**, Wessling M. Soft Temperature-Responsive Microgels of Complex Shape in Stop-Flow-Lithography. *Lab on a Chip* 2020, 20: 285
34. Rose JC, Fölster M, Kivilip L, Gerardo-Nava JL, Jaekel EE, Gehlen DB, Rohlf W*, **De Laporte L***. Predicting the orientation of magnetic microgel rods for soft anisotropic biomimetic hydrogels. *Polymer Chemistry* 2020, 11: 496
35. Jans A, Lölsberg J, Omidinia-Anarkoli A, Viermann R, Möller M, **De Laporte L**, Wessling M, Kühne AJC. High-throughput production of micrometer sized double emulsions and microgel capsules in parallelized 3D printed microfluidic devices. *Polymers* 2019, 15: e1887
36. Krüger AJK*, Bakirman O*, Guerzoni LPB, Jans A, Gehlen DB, Rommel D, Haraszti T, Kuehne AJC, **De Laporte L**. Compartmentalized jet polymerization as high resolution process to continuously produce anisometric microgel rods with adjustable size and stiffness. *Adv Mater.* 2019, e1903668

37. Gehlen DB, De Lencastre Novaes LC, Long W, Joelle Ruff A, Jakob F, Haraszi T, Liangliang Y, Schwaneberg U, **De Laporte L**. Rapid and robust coating method to render polydimethylsiloxane surfaces cell adhesive. *ACS Appl Mater Interfaces* 2019, 11: 41091
38. Licht CJ, Rose CJ, Omidinia-Anarkoli A, Blondel D, Roccio M, Haraszi T, Hubbell JA, Lutolf M, **De Laporte L**. Synthetic 3D PEG-Anisogels tailored with fibronectin fragments induce aligned nerve extension. *Biomacromolecules* 2019, 20: 4075
39. Chandorkar Y, Castro Nava A, Schweizerhof S, van Dongen M, Haraszi T, Köhler J, Zhang H, Windoffer R, Mourran A, Möller M, **De Laporte L**. Cellular responses to beating hydrogels to investigate mechanotransduction. *Nat Commun.* 2019, 10: 4027
40. Guerzoni LPB, Tsukamoto Y, Akashi M, **De Laporte L**. A Layer-by-layer single-cell coating technique to produce injectable mini heart tissues via microfluidics. *Biomacromolecules.* 2019, 20(10): 3746
41. Dietrich D, Licht CJ, **De Laporte L**, Janiak C. Metallo- and aerogels based on a bisamide tetracarboxyl ligand for carbon dioxide, sulfur dioxide and selective dye uptake. *ACS Appl Mater Interfaces* 2019, 11: 19654
42. Guerzoni LPB, Jans A, Gehlen DB, Rose J, Haraszi T, Wessling M, Kuehne AJC, **De Laporte L**. Cell encapsulation in soft, anisometric poly(ethylene) glycol microgels using a novel radical-free microfluidic system. *Small* 2019, 15: e1900692
43. Omidinia-Anarkoli A, Rimal R, Chandorkar Y, Gehlen D, Rose J, Rahimi K, **De Laporte L**. Solvent induced nanotopographies of single microfibers regulate cell mechanotransduction. *ACS Appl Mater Interfaces* 2019, 11: 7671
44. Krüger M, Spee B, Walther A, **De Laporte L**, Kock LM. Nanofibrillar cellulose as an enzymatically and flow driven degradable scaffold for 3D tissue engineering. *ASME J of Medical Diagnostics* 2019, 2: 041001
45. Krüger AJK, Köhler J, Rose J, Gehlen DB, Haraszi T, Möller M, **De Laporte L**. A new radical free temperature controlled gelation mechanism of star-shaped poly(EO-*stat*-PO) compounds to form tailored microgel rods with controlled stiffness and self-assembly behavior. *Chem Commun.* 2018, 54: 6943
46. Repenko T, Rix A, Haehnle B, Lederle W, **De Laporte L**, Kuehne AJC. A water-soluble PEGylated RGD-functionalized bisbithiophenyl diketopyrrolopyrrole as a photoacoustic sonophore. *Photochem Photobiol Sci.* 2018, 17: 617
47. Goetzke R, Sechi A*, **De Laporte L***, Neuss S*, Wagner W*. Why the impact of mechanical stimuli on stem cells remains a challenge. *Review paper Cellular and molecular life sciences* 2018, 7: 3297
48. Rose JC, Gehlen DB, Haraszi T, Köhler J, Licht CJ, **De Laporte L**. Biofunctionalized aligned microgels to provide 3D cell guidance to mimic complex tissue matrices. *Biomaterials*, 2018, 163: 128
49. Rose J, **De Laporte L**. Hierarchical design of tissue regenerative constructs. *Review paper. Adv Healthc Mater.* 2018, 7: e1701067
50. Repenko T, Rix A, Nedilkoc A, Rose J, Hermann A, Vinokur R, Moli S, Cao-Milànd R, von Plessen G, König TAF, Fery A, **De Laporte L**, Lederle W, Chigrina DN, Kuehne AJC. Strong photoacoustic signal enhancement by coating gold nanoparticles with melanin for biomedical imaging. *Adv Funct Mater.* 2018, 28: 1705607
51. Omidinia-Anarkoli A, Boesveld S, Tuvshindorj U, Rose J, Haraszi T, **De Laporte L**. An injectable hybrid hydrogel with oriented short fibers induces unidirectional growth of functional nerve cells. *Small* 2017, 13: 1702207
52. Guerzoni LPB, Bohl J, Jans A, Rose JC, Köhler J, Kuehne AJC, **De Laporte L**. Microfluidic fabrication of polyethylene glycol microgel capsules with tailored properties for the delivery of biomolecules. *Biomaterials Science.* 2017, 5: 1549
53. Bernhagen D, **De Laporte L**, Timmerman P. High-affinity RGD-knottin peptide as a new tool for rapid evaluation of the binding strength of unlabeled RGD-peptides to $\alpha_v\beta_3$, $\alpha_v\beta_5$, and $\alpha_5\beta_1$ integrin receptors. *Analytical Chemistry* 2017, 89: 5991
54. Rose J, Cámara-Torres M, Rahimi K, Köhler J, Möller M, **De Laporte L**. Nerve cells decide to orient inside an injectable hydrogel with minimal structural guidance. *Nano Letters*, 2017, 17: 3782
55. Torres-Rendon JG, Köpf M, Gehlen D, Blaeser A, Fisher H, **De Laporte L**, Walther A. Cellulose nanofibril hydrogel tubes as sacrificial templates for freestanding tubular cell constructs. *Biomacromolecules* 2016, 17: 905

56. Torres-Rendon JG, Femmer T, **De Laporte L**, Tigges T, Rahimi K, Gremse F, Zafarnia S, Lederle W, Ifuku S, Wessling M, Hardy JH*, Walther A*. Bioactive Gyroid Scaffolds Formed by Sacrificial Templating of Nanocellulose and Nanochitin Hydrogels as Instructive Platforms for Biomimetic Tissue Engineering. *Adv Mater.* 2015, 27: 2989
57. Repenko FT, Fokong SS, **De Laporte L**, Go D, Kiessling F, Lammers T, Kuehne A. Water soluble dopamine-based polymers for phototacoustic imaging. *Chemical Communications* 2015, 51: 6084
58. Hopkins AM, **De Laporte L**, Tortelli F, Spedden E, Staii C, Atherton T, Hubbell JA, Kaplan DL. Silk hydrogels as soft substrates for neural tissue engineering. *Adv Funct Mater.* 2013, 23: 5140
59. **De Laporte L***, Rice JJ*, Tortelli F, Hubbell JA. Tenascin C promiscuously binds growth factors via its fifth fibronectin type III-like domain. *PLoS One* 2013, 8: e62076
60. Rice JJ*, Martino MM*, **De Laporte L***, Tortelli F*, Briquez PS, Hubbell JA. Engineering the regenerative microenvironment with biomaterials. *Adv Healthc Mater.* 2013, 2: 57
61. **De Laporte L**, des Rieux A, Tuinstra HM, Zelivyanskaya ML, De Clerck NM, Postnov AA, Pr eat V, Shea LD. Vascular endothelial growth factor and fibroblast growth factor 2 delivery from spinal cord bridges to enhance angiogenesis following injury. *J Biomed Mater Res Part A* 2011, 98: 372
62. **De Laporte L**, Huang A, Ducommun M, Zelivyanskaya ML, Aviles MO, Adler A, Shea LD. Patterned gene expression from tissue engineering scaffolds for spinal cord regeneration. *Acta Biomaterialia* 2010, 6: 2889
63. Yang Y, **De Laporte L**, Zelivyanskaya ML, Whittlesey KJ, Anderson AJ, Cummings BJ, Shea LD. Multiple channel bridges for spinal cord injury: cellular characterization of host response. *Tissue Eng Part A* 2009, 15: 3283
64. Zhang XQ, Tang H, Hoshi R, **De Laporte L**, Qiu H, Xu X, Shea LD, Ameer GA. Sustained transgene expression via citric acid-based polyester elastomers. *Biomaterials* 2009, 30: 2632.
65. **De Laporte L**, Yan AL, Shea LD. Local gene delivery from ECM-coated poly(lactide-co-glycolide) multiple channel bridges after spinal cord injury. *Biomaterials* 2009, 30: 2361
66. **De Laporte L**, Yang Y, Zelivyanskaya ML, Cummings BJ, Anderson AJ, Shea LD. Plasmid releasing multiple channel bridges for transgene expression after spinal cord injury. *Mol Ther.* 2009 17: 318
67. **De Laporte L**, Shea LD. Matrices and Scaffolds for DNA Delivery in Tissue Engineering. *Adv Drug Delivery Reviews* 2006, 59: 292
68. **De Laporte L**, Cruz Rea J, Shea LD. Design of modular non-viral gene therapy vectors. *Biomaterials* 2006, 28: 947
69. Yang Y, **De Laporte L**, Rives CB, Jang J-H, Shull K, Shea LD. Controlled NGF release from single-lumen and multi-lumen conduits for nerve regeneration. *J. Control Release* 2005, 104: 433

PATENTS

1. **De Laporte L**, Moeller M, Rose JC, Omidinia-Anarkoli A: Macroscopically alignable, injectable, soft hydrogel composite (EP 3452120 B1, May 27 2020; US 11071806 B2, Jul 21 2021)
2. Hubbell JA, Martino MM, **De Laporte L**, Rice JJ, Tortelli F.: Tissue Repair Formulations from extracellular matrix heparin-binding domains. U.S. Patent (US 20140011978 A1, Jan 9 2014)
3. Shea LD, Shea LL, Whittlesey KJ, Yang Y, Rives CB, **De Laporte L**, Jang J-H. Biodegradable scaffolds and uses thereof. U.S. Patent (Patent No US 7,846,466 B2, Dec 7 2010)

TEACHING AT RWTH

2020 – current	Polymer Properties and Characterization Methods, Max Planck School – Matter to Life (10 h, SS Summer Semester)
2019 – current	Macromolecular Chemistry II, Chemistry B.Sc., RWTH (10,5 h, SS)
2018 – current	Biomaterials, Chemistry M.Sc., RWTH (10,5 h, both WS and SS)
2018 – current	Introduction to Polymers, Chemistry and Biochemistry, Biomedical Engineering M.Sc., UKA/RWTH (10,5 hrs, WS Winter Semester)
2015 – 2017	Introduction to Polymers, Chemistry and Biochemistry, Biomedical Engineering M.Sc., UKA/RWTH (6 hrs, WS)
2016 – current	Materials Science and Processing, Biomedical Engineering M.Sc., UKA/RWTH (4,5 hrs)

2017 – current	Biointerface/Implantologie, Biomedical Engineering M.Sc., UKA/RWTH (1,5 hrs, WS)
09/2022	Passion For Science, Max Planck School Days, Berlin
09/2022	Summer School SFB985 RWTH: Microgels as solution to solve challenges in tissue engineering, Monschau
10/2021	Digital Seminar SFB1459 – Intelligent Matter, Westfälische Wilhelms-Universität (WWU) Münster
09/2021	Lecture: Synthetic hydrogels for Tissue Engineering, GRK2415 – Mechanobiology, Aachen
11/2021	Lecture: Production methods and characterization of microgels to tackle tissue engineering challenges, GRK2415 – Mechanobiology, Aachen
05/2021	Digital Rudolf Mößbauer Colloquium - Max Planck Institute for Medical Research
01/2019	Colloquium Macromolecular Chemistry, University of Mainz
12/2018	Colloquium Physical Chemistry, University of Dusseldorf
09/2018	Guest Lecture RTG1865: Hydrogel-based microsystems, Dresden
07/2018	Summer School SFB985 RWTH - Georgia Tech University: Microgels for regenerative medicine, Monschau
05/2018	Ringleecture Collaborative Research Center, CRC985 Functional microgels and microgel systems, RWTH
06/2016	Neurosciences, Biomedical Engineering M.Sc., RWTH (1,5 hrs)
06/2015	Summer School RWTH - Georgia Tech University: Fabrication of anisometric microgels, Aachen
04/2015	Colloquium Biotechnology, Uniklinik Aachen
09/2014	Biomaterials for Tissue Engineering, Biotechnology, RWTH (Guest lecture)
04/2014	Introduction to Tissue Engineering, University of Ghent (Guest lecture)

AWARDS

2019	Steinhofer Vorlesung
2018	Young Investigator Award – Engineering Conferences International
2016	Max-Buchner-Forschungsstiftung
09/2008 – 06/2009	Terminal Year Richter Fellowship, Northwestern University
2008	AIChE Women's Initiatives Committee Travel Award, USA
2006, 2007, 2008	Conference Travel Grant, Northwestern University (yearly)
2006	CGM Travel Fellowship Award, USA
09/2004 – 08/2005	International Doctoral Fellowship, Northwestern University

SCIENTIFIC PRESENTATIONS

2022 Digital: 16th Annual Meeting RSC Biomaterials Chemistry; Faculty Club RWTH; Spring Days Max Planck School Matter to Life

Presence: Institute for Complex Molecular Systems (ICMS) symposium, Eindhoven; Max Planck School Days, Berlin; SIIRI Symposium Hannover; Spinal Research (ISRT), London; Material Science and Engineering (MSE), Darmstadt; Joint Symposium RTG2375 RWTH-TU Eindhoven, Aachen; Seminar, TU Eindhoven; Merck-GDCh-Kolloquiums, Darmstadt; Biofabrication meets Infection Symposium, Würzburg, Physiologisches Kolloquium UKA, Aachen

2021 Digital: Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Conference; Japanese Society for Cell Synthesis Research; Seminar CRC 1459 – Intelligent Matter; European Society for Biomaterials (ESB); Korean Spinal Research Society; International Online Spinal Cord Injury seminar Series (I-OSCIRS); GDCh Lectures; Seminar University of Hasselt; Umbrella Meeting with Technion University Israel; Rudolf Mößbauer Colloquium - Max Planck Institute for Medical Research; Webinar International Society for Biofabrication (ISBF); Seminar University of Erlangen; Japan-Aachen Workshop Nanomedicine; German-American Frontiers of Engineering (GAFOE)

2020 Digital: 5th Bioinspired Materials, Irsee; Max Planck School: Matter to Life Lecture Series Webinar; SynCell2020 Virtual Symposium; Online seminar for the German Society for Biomaterials; Leibniz Meet the Scientist; Online Seminar EPFL; Tissue Engineering Conference UKA Aachen; Moderator Brightland Feel the Chemistry, Health Challenge

2019 Seminar University Duisburg-Essen; Seminar University Mainz; Biospine Rome IT; Steinhofers Vorlesung Freiburg DE; Leibniz Gemeinschaft ERC workshop, Berlin; Max Planck School, Heidelberg; 16th Biennial Bayreuth Polymer Symposium; Particle Based Materials Symposium, Ulm; Biofabrication, Columbus OH, USA; RWTH Senioren, Aachen; N2 Event, Berlin; Sino Event, Aachen; APC Twin Waters, Australia; Bioinspired Materials, Monte Verita, CH; MERLN PhD Symposium Maastricht, NL; Chains Eindhoven, NL; Block-Kolloquium Biomedical materials INM Saarbrücken

2018 Seminar University Dusseldorf; Jahrestagung der Deutschen Gesellschaft für Biomaterialien, Braunschweig; Magnetism, Paris FR; Biointerface International Conference, Zurich CH, Nanotechnology in Medicine II, Albufeira PT, Konferenz Materialinnovationen - Material Vital, München, 2nd Theodore von Kármán - Discussion Conference on Materials for Life, Bergisch Gladbach; KStV Grotenburg Lusatia, Aachen; Kékulé Cycle, Antwerp BE; ACS Annual Meeting, New Orleans, US; Seminar Forces, materials, cellular responses, Aachen; 9th Workshop of Chemical and Biological Micro Laboratory Technology, Ilmenau.

2017 Ringberg Castle Symposium on 4D Molecular Systems Engineering, Schlöss Ringberg; Jahrestagung der Deutschen Gesellschaft für Biomaterialien, Würzburg; American Institute of Chemical Engineers (AIChE), Minneapolis US; Particle-Based Materials Symposium, Saarbrücken; Mechanobiologie-Kolloquium, Aachen DE; 12th International Conference on Advanced Polymers via Macromolecular Engineering, Ghent BE; NVMB-NBTE symposium, Lunteren NL; Biospine, Berlin; eFFECT event on ChemTech & Healthcare, Ghent BE; Mechanobiology-Symposium, Uniklinik Aachen; The 13th Zsigmondy colloquium of the German Colloid Society, Saarbrücken; Symposium "Biomaterials-based approaches to personalized medicine", Leibniz Gesundheitstechnologien, Berlin; 5th International Conference on Multifunctional, Hybrid and Nanomaterials, Lisbon Portugal.

2016 7th BSRT Symposium "Regenerate me if you can" Foster success in compromised regenerative processes, Charité, Berlin DE; American Institute of Chemical Engineers (AIChE), San Francisco US; Biomedical engineering Society (BMES) (*poster*), Minneapolis US; Jahrestagung der Deutschen Gesellschaft für Biomaterialien, Aachen DE; Active Hydrogels - An interdisciplinary symposium on the different designs and utilizations of hydrogels, Schlöss Ringberg DE.

2015 BSRT Symposium "Revealing Prometheus secrets" Current technologies for tissue & organ regeneration and their clinical perspective, Charité, Berlin DE; Engineering Life: Synthetic biology meets bio-inspired materials, Dresden DE; Engineering of functional interfaces (Enfi), Hannover DE; Seleca Symposium, Osaka University Japan; Umbrella Symposium, Haifa Israel.

2014 Umbrella Symposium, Aachen DE; Aachen Polymer Chain (APC) Talks, Aachen DE.

<2014 Tissue Engineering & Regenerative Medicine International Society (TERMIS): Vienna, Austria (2014), Galway, Ireland (2010); AIChE: Philadelphia, US (2008), Salt Lake City US (2007), San Francisco US (2006); Society for Neuroscience, Atlanta, US (*poster*) (2006).

ORGANIZATION CONFERENCES

09/2023	European Society for Biomaterials Conference, Davos CH
2021/2022	Women Interactive Materials Award (WIMA), DWI
09/2022	GDCh meeting of the Macromolecular Chemistry Division, Aachen
04/2019	GDCh-Wissenschaftsforums Chemie 2019 – Session „Interactive Materials for Life“, Aachen
04/2018	2nd Theodore von Kármán – Discussion Conference on Materials for Life: Bioinspired and biomimetic hydrogels, Bergisch Gladbach
08/2016	Jahrestagung der Deutschen Gesellschaft für Biomaterialien, Aachen