

List of publications and oral communications

Dr. Sytze Buwalda

December 2023

PEER-REVIEWED ARTICLES

B. Nottelet, S.J. Buwalda, C. van Nostrum, X. Zhao, C. Deng, Z. Zhong, E. Cheah, D. Svirskis, C. Trayford, S. van Rijt, C. Ménard-Moyon, R. Kumr, N. Seda Kehr, N. de Barros, A. Khademhosseini, H. Kim and T. Vermonden, Roadmap on Multifunctional Materials for Drug Delivery. *Journal of Physics: Materials* **2023**, in press

<https://doi.org/10.1088/2515-7639/ad05e8>

S.J. Buwalda, Advanced Functional Polymers for Unmet Medical Challenges. *Biomacromolecules* **2023**, *24*, 4329-4332

<https://doi.org/10.1021/acs.biomac.3c00332>

C. Chartier, S.J. Buwalda, B. C. Ilochonwu, H. Van Den Berghe, A. Bethry, T. Vermonden, M. Viola, B. Nottelet, T. Budtova, Release kinetics of dexamethasone phosphate from porous chitosan: comparison of aerogels and cryogels. *Biomacromolecules* **2023**, *24*, 4494–4501

<https://doi.org/10.1021/acs.biomac.2c01408>

L. Legay, T. Budtova, S.J. Buwalda, Hyaluronic acid aerogels made via freeze-thaw induced gelation. *Biomacromolecules* **2023**, *24*, 4502-4509

<https://doi.org/10.1021/acs.biomac.2c01518>

D. Aguilera-Bulla, L. Legay, S.J. Buwalda, T. Budtova, Crosslinker-free hyaluronic acid aerogels, *Biomacromolecules* **2022**, *23*, 2838-2845

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S. Groult, S.J. Buwalda, T. Budtova, Tuning bio-aerogel properties for controlling theophylline delivery. Part 2: Pectin-cellulose composite aerogels, *Biomaterials Advances* **2022**, *135*, 212732

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C. Chartier, S.J. Buwalda, H. Van Den Berghe, B. Nottelet, T. Budtova, Tuning the properties of porous chitosan: Aerogels and cryogels, *International Journal of Biological Macromolecules* **2022**, *202*, 215-223

<https://doi.org/10.1016/j.ijbiomac.2022.01.042>

S. Groult, S.J. Buwalda, T. Budtova, Tuning bio-aerogel properties for controlling theophylline delivery. Part 1: Pectin aerogels, *Materials Science and Engineering C* **2021**, *126*, 112148

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S. Groult, S.J. Buwalda, T. Budtova, Pectin hydrogels, aerogels, cryogels and xerogels: Influence of drying on structural and release properties, *European Polymer Journal* **2021**, *149*, 110386

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T. Budtova, D.A. Aguilera, S. Beluns, L. Berglund, C. Chartier, E. Espinosa, S. Gaidukovs, A. Klimek-Kopyra, A. Kmita, D. Lachowicz, F. Liebner, O. Platnieks, A. Rodríguez, L.K.T. Navarro, F. Zou, S.J. Buwalda, Biorefinery approaches for aerogels, *Polymers* **2020**, *12*, 2779

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A. El Jundi, S.J. Buwalda, Y. Bakkour, X. Garric, B. Nottelet, Double hydrophilic block copolymers self-assemblies in biomedical applications, *Advances in Colloid and Interface Science* **2020**, *283*, 102213
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S.J. Buwalda, Biobased composite hydrogels for biomedical applications, *Multifunctional Materials* **2020**, *3*, 022001
DOI: <https://doi.org/10.1088/2399-7532/ab80d6>

S.J. Buwalda, S. Rotman, D. Eglin, F. Moriarty, A. Bethry, X. Garric, O. Guillaume, B. Nottelet, Synergistic anti-fouling and bactericidal poly(ether ether ketone) surfaces via a one-step photomodification, *Materials Science & Engineering C* **2020**, *111*, 110811
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L. Druel, A. Kenkel, V. Baudron, S.J. Buwalda, T. Budtova, Cellulose Aerogel Microparticles via Emulsion-Coagulation Technique, *Biomacromolecules* **2020**, *21*, 1824-1831
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A. El Jundi, S.J. Buwalda, A. Bethry, S. Hunger, J. Coudane, Y. Bakkour, B. Nottelet, Double-hydrophilic block copolymers based on functional poly(ϵ -caprolactone)s for pH-dependent controlled drug delivery, *Biomacromolecules* **2020**, *21*, 397-407
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S.J. Buwalda, A. Bethry, S. Hunger, S. Kandoussi, J. Coudane, B. Nottelet, Ultrafast in situ forming poly(ethylene glycol)-poly(amido amine) hydrogels with tunable drug release properties via controllable degradation rates, *European Journal of Pharmaceutics and Biopharmaceutics* **2019**, *139*, 232-239
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S.J. Buwalda, A. Bethry, R.J. Kok, N.J. Sijbrandi, B. Nottelet, J. Coudane, Reversibly core-crosslinked PEG-P(HPMA) micelles: platinum coordination chemistry for competitive-ligand-regulated drug delivery, *Journal of Colloid and Interface Science* **2019**, *535*, 505-515
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S.J. Buwalda, A. Al Samad, A. Bethry, Y. Bakkour, J. Coudane, B. Nottelet, Core-crosslinking of poly(ethylene glycol)-poly(ϵ -caprolactone) star block copolymer micelles via π - π stacking for improved drug delivery properties, *Journal of Colloid and Interface Science* **2018**, *514*, 468-478
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S.J. Buwalda, P.J. Dijkstra, J. Feijen, In situ forming stereocomplexed and post photocrosslinked acrylated star PEG-PLA hydrogels, *European Polymer Journal* **2017**, *94*, 152-161
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S.J. Buwalda, B. Nottelet, J. Coudane, Robust & thermosensitive poly(ethylene glycol)-poly(ϵ -caprolactone) star block copolymer hydrogels, *Polymer Degradation and Stability* **2017**, *137*, 173-183
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S.J. Buwalda, T. Vermonden, W.E. Hennink, Hydrogels for therapeutic delivery: current developments and future directions, *Biomacromolecules* **2017**, *18*, 316-330
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S.J. Buwalda, A. Amgoune, D. Bourissou, PEG-PLGA copolymers bearing carboxylated side chains: novel hydrogels with enhanced crosslinking via ionic interactions, *Journal of Polymer Science Part A: Polymer Chemistry* **2016**, *54*, 1222-1227
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S.J. Buwalda, K.W.M. Boere, P.J. Dijkstra, J. Feijen, T. Vermonden, W.E. Hennink, Hydrogels in a historical perspective: from simple networks to smart materials, *Journal of Controlled Release* **2014**, *190*, 254-273
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A. Petit, M. Sandker, B. Müller, R. Meyboom, P. van Midwoud, E.M. Redout, C.H. van der Lest, S.J. Buwalda, L. de Leede, T. Vermonden, R.J. Kok, H.H. Weinans, W.E. Hennink, Celecoxib-loaded acetyl-capped PCLA-PEG-PCLA thermogels: in vitro and in vivo release behavior and intra-articular biocompatibility, *Biomaterials* **2014**, *35*, 7919-7928
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S.J. Buwalda, L. Calucci, C. Forte, P.J. Dijkstra, J. Feijen, Stereocomplexed 8-armed PEG-PLA star block copolymer hydrogels: gelation mechanism, mechanical properties and degradation behavior, *Polymer* **2012**, *53*, 2809-2817
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S.J. Buwalda, P.J. Dijkstra, J. Feijen, Poly(ethylene glycol)-poly(L-lactide) star block copolymer hydrogels crosslinked by metal-ligand coordination, *Journal of Polymer Science Part A: Polymer Chemistry* **2012**, *50*, 1783-1791
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S.J. Buwalda, P.J. Dijkstra, J. Feijen, In situ forming PEG-PLA hydrogels via Michael addition: mechanical properties, degradation and protein release, *Macromolecular Chemistry and Physics* **2012**, *213*, 766-775
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S.J. Buwalda, L.B. Perez, S. Teixeira, L. Calucci, C. Forte, J. Feijen, P.J. Dijkstra, Self-assembly and photo-cross-linking of eight-armed PEG-PTMC star block copolymers, *Biomacromolecules* **2011**, *12*, 2746-2754
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L. Calucci, C. Forte, S.J. Buwalda, P.J. Dijkstra, Solid-state NMR study of stereocomplexes formed by enantiomeric star-shaped PEG-PLA copolymers in water, *Macromolecules* **2011**, *44*, 7288-7295
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L. Calucci, C. Forte, S.J. Buwalda, P.J. Dijkstra, J. Feijen, Self-aggregation of gel forming PEG-PLA star block copolymers in water, *Langmuir* **2010**, *26*, 12890-12896
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S.J. Buwalda, P.J. Dijkstra, L. Calucci, C. Forte, J. Feijen, Influence of amide versus ester linkages on the properties of eight-armed PEG-PLA star block copolymer hydrogels, *Biomacromolecules* **2010**, *11*, 224-232
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PATENT

H.J. Houthoff, G.A.M.S. van Dongen, R.J. Kok, D.C.J. Waalboer, S.J. Buwalda, N.J. Sijbrandi, Method for preparing cell targeting conjugates, and the complexes obtained (2013), PCT/NL2013/050003

ORAL COMMUNICATIONS

Presenting author only

L. Legay, D. Aguilera-Bulla, T. Budtova, S.J. Buwalda

Hyaluronic Acid Aerogels and Composites for Biomedical Applications

Advanced Functional Polymers for Medicine conference, Barcelona (Spain), June 2023

D. Aguilera, L. Legay, C. Chartier, H. Van Den Berghe, B. Nottelet, S.J. Buwalda, T. Budtova

Bio-aerogels for Biomedical Applications

50ème colloque national du Groupe Français des Polymères, Montpellier (France), November 2022

S. Groult, D. Aguilera, L. Legay, C. Chartier, S.J. Buwalda, T. Budtova

Bio-aerogels for Biomedical Applications

Advanced Functional Polymers for Medicine conference, online edition, July 2021

S.J. Buwalda, B. Nottelet, A. Bethry, N.J. Sijbrandi, J. Coudane

Reversibly core-crosslinked PEG-P(HPMA) micelles: platinum coordination chemistry for competitive-ligand-regulated drug delivery

15èmes journées du Groupe Français des Polymères - Section Méditerranée, Montpellier (France), March 2018

S.J. Buwalda, B. Nottelet, J. Coudane

PEG-PHPMA block copolymers bearing pendant benzylthioether groups: synthesis, self-assembly in water and micellar core-crosslinking via platinum coordination chemistry

28th Annual Conference of the European Society for Biomaterials, Athens (Greece), September 2017

S.J. Buwalda, B. Nottelet, J. Coudane

L_x micelles: coordination chemistry in doubly stabilized micelles for the delivery of drugs in cancer therapy

Seminar of the Department of Pharmaceutics, Utrecht University, Utrecht (The Netherlands), May 2017

S.J. Buwalda, B. Nottelet, J. Coudane

L_x micelles: coordination chemistry in doubly stabilized micelles for the delivery of cytostatic drugs in cancer therapy

Young Scientists Workshop, Cancéropôle Grand Sud-Ouest, Montauban (France), May 2017

S.J. Buwalda, B. Nottelet, J. Coudane

L_x micelles: coordination chemistry in doubly stabilized micelles for the delivery of cytostatic drugs in cancer therapy

Deuxième Edition de la Journée SIRIC / Balard, Montpellier (France), February 2017

S.J. Buwalda, N.J. Sijbrandi, H.J. Houthoff, W.E. Hennink, R.J. Kok

L_x, a novel platinum based linker for antibody-drug conjugates

Dutch Medicine Days, Ede (The Netherlands), October 2013

S.J. Buwalda, P.J. Dijkstra, J. Feijen

Injectable, biodegradable PEG-PLA hydrogels by Michael addition chemistry

Meeting of the Dutch Society for Biomaterials and Tissue Engineering, Lunteren (The Netherlands), December 2010

S.J. Buwalda, P.J. Dijkstra, J. Feijen

The influence of amide versus ester linkages on the properties of 8-armed PEG-PLA star block copolymer hydrogels

Workshop of Young European Scientists, Kraków (Poland), September 2010

S.J. Buwalda, P.J. Dijkstra, J. Feijen

Poly(ethylene glycol)-poly(lactide) star block copolymer hydrogels

Dutch Polymer Days, Veldhoven (The Netherlands), February 2010

S.J. Buwalda, P.J. Dijkstra, J. Feijen

The influence of amide versus ester linkages on the properties of 8-armed PEG-PLA star block copolymer hydrogels

Meeting of the Dutch Society for Biomaterials and Tissue Engineering, Lunteren (The Netherlands), December 2009

S.J. Buwalda, P.J. Dijkstra, J. Feijen

Poly(ethylene glycol)-poly(lactide) star block copolymer hydrogels

International Congress on Biohydrogels, Viareggio (Italy), November 2009

S.J. Buwalda, Z. Zhang, P.J. Dijkstra, J. Feijen

Mechanical properties and degradation behavior of thermosensitive physically crosslinked PEG-PLA hydrogels

Meeting of the Dutch Program for Tissue Engineering, Noordwijk (The Netherlands), November 2008

S.J. Buwalda, I.W. Velthoen, P.J. Dijkstra, J. Feijen

Biodegradable chemically crosslinked PEG-PLLA hydrogels for drug delivery purposes

World Biomaterials Congress, Amsterdam (The Netherlands), May 2008