

## Liste des publications de l'équipe BIO

2014 - 2017

### Journaux / Revues

#### 2014

1. Haigler C.H., Grimson M.J., Gervais J., Le Moigne N., Hofte H., Monasse B., Navard P. "Molecular modeling and imaging of initial stages of cellulose fibril assembly: evidence for a disordered intermediate stage", *PlusOne*, 9(4) e93981 (2014)
2. Obradovic J., Wondraczek H., Fardim P., Lassila L., Navard P., "Preparation of three-dimensional cellulose objects previously swollen in DMAc/LiCl solvent system", *Cellulose*, 21(6), 4029-4038 (2014)
3. Navard P., "Les cristaux liquides polymères et leur rhéologie", *Rhéologie*, Vol. 26, 1-8 (2014)
4. Ries M.E., Radhi A., Keating A.S., Parker O., Budtova T. "Diffusion of 1-ethyl-3-methyl-imidazolium acetate in glucose, cellobiose, and cellulose solutions", *Biomacromolecules*, 15 (2), 609-617 (2014)
5. Patlazhan S. A., Kravchenko I. V., Budtova T. V., Sultanov V. G. "Deformation behavior of a composite drop in a simple shear flow" *Doklady Physical Chemistry*, 454, Part 1, 8-11 (2014)
6. Le K.A, Rudaz C., Budtova T. « Phase diagram, solubility limit and hydrodynamic properties of cellulose in binary solvents with ionic liquid», *Carbohydrate Polymers*, 105, 237-243 (2014)
7. Gerard T., Budtova T., Podshivalov A., Bronnikov S. "Polylactide/poly(hydroxybutyrate-co-hydroxyvalerate) blends: Morphology and mechanical properties" *Express Polymer Letters*, 8, 609-617 (2014)
8. Spatareanu A., Bercea M., Budtova T., Harabagiu V., Sacarescu L., Coseri S. "Synthesis, characterization and solution behaviour of oxidized pullulan", *Carbohydrate Polymers*, 111, 63-71 (2014).
9. Rudaz C., Courson R., Bonnet L., Calas-Etienne S., Sallee H., Budtova T. "Aeropectin: fully biomass-based mechanically strong and thermal super-insulating aerogel", *Biomacromolecules*, 15, 2188-2195 (2014).
10. Demilecamps A., Reichenauer G., Rigacci A., Budtova T. "Cellulose-silica composite aerogels from "one-pot" synthesis", *Cellulose*, 21, 2625-2636 (2014)
11. F. Berzin, B.Vergnes, J. Beaugrand, Evolution of lignocellulosic fibre length along the screw profile during twin screw compounding with polycaprolactone, *Comp. Part A*, 59, 30-36 (2014)
12. F. Démé, E. Peuvrel-Disdier, B. Vergnes, Rheology and morphology of polyester/thermoplastic flour blends, *J. Appl. Polym. Sci.*, 131, 40222 (2014)
13. S. Risse, L. Tighzert, F. Berzin, B. Vergnes, Microstructure, Rheological behaviour and properties of Poly(lactic acid)/Poly(butylene succinate) /organoclay nanocomposites, *J. Appl. Polym. Sci.*, 131, 40364 (2014)
14. F. Berzin, J. Beaugrand, B. Vergnes, Simulation de l'évolution de la longueur de fibres ligno-cellulosiques durant la réalisation de composites en extrusion baxis, *Rhéologie*, 25, 65-71 (2014)

#### 2015

1. Budtova T., Navard P., "Temperature dependence of the viscosity of cellulose solutions", *Nord. Pulp Paper Res. J.*, 30(1), 99-104 (2015)
2. Wang W., Li F. , Yu J. , Budtova T., Navard P., "Thermal behavior of hydroxyethylcellulose and cellulose solutions in NaOH-water, *Nord. Pulp Paper Res. J.*, 30(1), 20-25 (2015)
3. Obradovic J., Fardim P., Lassila L., Navard P., "High pressure treatment of DMAc/LiCl swollen softwood pulp", *BioResources*, 10 (2), 2143-2155 (2015)

4. Wang W., Li F., Yu J., Navard P., Budtova T., "Structure and properties of novel cellulose-based fibers spun from aqueous NaOH solvent under various drawing conditions", *Cellulose*, 22, 1333-1345 (2015)
5. Wang W., Li F., Yu J., Navard P., Budtova T., "Influence of substitution on the rheological properties and gelation of hydroxyethyl cellulose solution in NaOH-water solvent", *Carbohydrate Polymers*, 124, 85-89 (2015)
6. Demilecamps A., Beauger C., Hildenbrand C., Rigacci A., Budtova T. "Cellulose-silica aerogels", *Carbohydrate Polymers*, 122, 293-300 (2015)
7. Radhi A., Le K.A., Ries M.E., Budtova T. "Macroscopic and microscopic study of 1-ethyl-3-methyl-imidazolium acetate-DMSO Mixtures", *The Journal of Physical Chemistry B*, 119 (4), 1633-1640 (2015)
8. Bulota M., Budtova T. "PLA/algae composites: morphology and mechanical properties", *Composites Part A: Applied Science and Manufacturing*, 73, 109-115 (2015)
9. Pour G., Beauger C., Rigacci, Budtova T. "Xerocellulose: lightweight, porous and hydrophobic cellulose prepared via ambient-drying", *J Mater Sci.*, 50(13), 4526-4535 (2015)
10. Bulota M., Budtova T. "Highly porous and light-weight flax/PLA composites", *Industrial Crops and Products*, 74 132-138 (2015)
11. Zhao S., Malfait W. J., Demilecamps A., Zhang Y., Brunner S.L., Huber L., Tingaut P., Rigacci A., Budtova T., Koebel M. M., "Strong, Thermally Superinsulating, Biopolymer-Silica Aerogel Hybrids by Cogelation of Silicic Acid with Pectin", *Angewandte Chemie International Edition*, 54 (48), 14282-14286 (2015)
12. M. Kristiawan, G. Della Valle, K. Kansou, A. Ndiaye, B. Vergnes, C. David, A phenomenological model of starch expansion by extrusion, *Rhéologie*, 27, 24-33 (2015)
13. F. Démé, E. Peuvrel-Disdier, B. Vergnes, Loss of crystalline structure and swelling kinetic of maize starch and flour granules in glycerol excess: the role of the envelope structure, *Ind. Crop Prod.*, 70, 149-157 (2015).
14. Edgar K., Navard P., "Editorial: 3rd EPNOE International Polysaccharide Conference (EPNOE 2013)", *Carbohydrate Polymers*, 116, 1 (2015)

## 2016

1. Vo L., Navard P., "Treatments of plant biomass for cementitious building materials - A review", *Construction and Building Materials*, 121, 161-176 (2016)
2. Bercea M., Navard P., "Comparison of elasticity contributions during the flow of a cellulose derivative solution", *Cellulose Chem. Technol.*, 50, 601-607 (2016)
3. Boix E., Georgi F., Navard P., "Influence of alkali and Si-based treatments on the physical and chemical characteristics of miscanthus stem fragments", *Industrial Crops and Products*, 91, 6-14 (2016)
4. Girones J., Vo L., Arnoult S., Brancourt-Hulmel M., Navard P., "Miscanthus stem fragment - reinforced polypropylene composites: development of an optimized preparation procedure at small scale and its validation for differentiating genotypes", *Polymer Testing*, 55, 166-172 (2016)
5. Abdennadher A., Vincent M., Budtova T. "Rheological properties of molten flax- and Tencel-polypropylene composites: Influence of fiber morphology and concentration", *Journal of Rheology*, 60(1), 191-201 (2016).
6. Buchtova N., Budtova T. "Cellulose aero-, cryo- and xerogels: towards understanding of morphology control", *Cellulose*, 23(4), 2585-2595 (2016)
7. Ciolacu D., Rudaz C., Vasilescu M., Budtova T. "Physically and chemically cross-linked cellulose cryogels: Structure, properties and application for controlled release" *Carbohydrate Polymers*, 151, 392-400 (2016)
8. Bulota M., Budtova T. "Valorisation of macroalgae industrial by-product as filler in thermoplastic polymer composites", *Composites: Part A*, 90, 271-277 (2016).

9. Di Giuseppe E., Castellani R., Dobosz S., Malvestio J., Berzin F., Beaugrand J., Delisee C., Vergnes B., Budtova T. «Reliability evaluation of automated analysis, 2D scanner, and micro-tomography methods for measuring fiber dimensions in polymer-lignocellulosic fiber composites » *Composites: Part A*, 90, 320-329 (2016).
10. Demilecamps A., Alves M., Rigacci A., Reichenauer G., Budtova T. "Nanostructured Interpenetrated Organic-Inorganic Aerogels with Thermal Superinsulating Properties", *Journal of Non-Crystalline Solids*, 452, 259-265 (2016).
11. Coseri S., Bercea M., Harabagiu V., Budtova T. "Oxidation vs. degradation in polysaccharides: Pullulan - A case study". *European Polymer Journal* 85, 82-91 (2016).
12. Castellani R., Di Giuseppe E., Beaugrand J., Dobosz S., Berzin F., Vergnes B., Budtova T. « Lignocellulosic fiber breakage in a molten polymer. Part 1. Qualitative analysis using rheo-optical observations". *Composites: Part A* 91, 229-237 (2016)
13. Brizzi S., Funicello F., Corbi F., Di Giuseppe E., Mojoli G. "Salt matters : How salt affects the rheological and physical behavior of gelatine for analogue modelling" *Tectonophysics* 679, 88-101 (2016)
14. M. Kristiawan, L. Chaunier, G. Della Valle, A. Ndiaye, B. Vergnes, Modelling of starchy melts expansion by extrusion, *Trends Food Sci. Tech.*, 48, 13-26 (2016)
15. Budtova T., Navard P., "Cellulose solutions in NaOH-water based solvents: a review", *Cellulose*, 23(1), 5-55 (2016)

## 2017

1. Cousin T., Berto C., Budtova T., Kurek J., Navard P., "Influence of the scale and type of processing tool on plasticization of cellulose acetate", *Polymer Engineering and Science*, accepté
2. Markevicius G., Ladj R., Niemeyer O., Budtova T., Rigacci A. "Ambient-dried thermal superinsulating monolithic silica-based aerogels with short cellulosic fibers" *J. Material Science*, 52, 2210-2221 (2017)
3. Di Giuseppe E., Castellani R., Budtova T., Vergnes B. "Lignocellulosic fiber breakage in a molten polymer. Part 2. Quantitative analysis of the breakage mechanisms during compounding", *Composites: Part A*, 95, 31-39 (2017)
4. Marques M.F.V., de Melo R.P., Navard P., "Degradation studies and mechanical properties of treated curauá fibers and microcrystalline cellulose in composites with polyamide 6", *J. Composite Mater.*, accepté
5. Marques M.F.V., de Melo R.P., Navard P., "Composites of plasticized polyamide 66 and chemically modified cellulose fibres", *Polymer-Plastics Technology and Engineering*,
6. Chupin L., de Rieder D., Jaffuels S., Clement Vidal A., Soutiras A., Gineau E., Mouille G., Arnoult S., Brancourt-Hulmel M., Lapierre C., Pot D., Vincent L., Mija A., Navard P., "Influence of the radial stem composition on the thermal behavior of miscanthus and sorghum genotypes for composite end-use", *Carbohydrate Polymers*,
7. Vo L., Girones J., Beloli C., Chupin L., di Giuseppe E., Clement-Vidal A., Soutiras A., Pot D., Bastianelli D., Bonal L., Navard P., "Processing and properties of sorghum stem fragment-polyethylene composites", *Industrial Crops & Products*, accepté

## Chapitres d'ouvrage

### 2017

1. Budtova T., Castellani R., Di Giuseppe E., Vergnes B. « Mécanismes de casse de fibres lignocellulosiques et propriétés rhéologique des composites » in « Composites polymères et fibres lignocellulosiques, Propriétés, transformation et caractérisation » F. Berzin Ed, Lavoisier, Coll. Science et ingénierie des matériaux. 2017, pp 89 - 129.

2. Dumont P.J.J., Orgeas L., Martoia F., Budtova T., Vincent M. “Mise en oeuvre des composites à fibres lignocellulosiques” in « Composites polymères et fibres lignocellulosiques, Propriétés, transformation et caractérisation» F. Berzin Ed, Lavoisier, Coll. Science et ingénierie des matériaux. 2017, pp. 159 - 211.
3. F. Berzin, B. Vergnes, Préparation des composites à fibres ignocellulosiques en extrusion bivis, in: Composites Polymères et Fibres Lignocellulosiques : Propriétés, Transformation, Caractérisation, F. Berzin, Ed., Hermès Sciences (2017).