

Dr Gilles SÈBE

*Research Scientist and Lecturer at the Laboratory of Chemistry of Organic Polymers (LCPO),
University of Bordeaux (France)*

Personal details

- Date of Birth: June 15th, 1968
- Nationality: French
- Business address: **Laboratoire de Chimie des Polymères Organiques (LCPO)**, UMR 5629
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Academic qualifications

- 2007 "Habilitation à Diriger des Recherches/H.D.R." (Thesis title: '*Control of the supramolecular properties of lignocellulosic materials: chemical functionalization and physico-chemistry of the fiber/matrix interface*'), University of Bordeaux, France
- 1996 Ph.D in Wood Chemistry, with honors, University of Bordeaux, France
- 1992 MSc ('D.E.A.') in Wood chemistry, with honors, University of Bordeaux, France
- 1991 B.Sc ('Maîtrise') in Organic Chemistry, with honors, University of Bordeaux, France

Career to date

- Since 2000 Associate Professor ('Maître de Conférences') at the University of Bordeaux, Talence, France
- 1998-00 Research Scientist at the BioComposites Centre, University of Wales, Bangor, U.K.
- 1996-97 Post-doctoral fellow at McMaster University, Hamilton, Canada

Research interests

- Synthesis, characterization and functionalization of cellulose nanocrystals
- Interfacial adhesion in biopolymer-based composites
- Chemical functionalization of wood and other biopolymers

Teaching interests

- Organic chemistry
- Biopolymer chemistry

Supervision of thesis and post-docs

Ph.D's

- Chantereau G., 2015-20: *Bioactive bacterial cellulose based nanomaterials for topical applications*
- Werner A., 2015-18: *Polymerization of Pickering emulsions stabilized by cellulose nanocrystals*
- Zhang Z., 2014-17: *Surface Modification of Cellulose Nanocrystals by Esterification and ATRP Reactions for Advanced Applications*
- Dhuiège B., 2014-17: *Acylation of nanocelluloses in aqueous media by transesterification of vinyl esters and utilization as filler in natural rubber*

- Brand J., 2013-16: *Chemical functionalization of cellulose nanocrystals by acylation with vinyl esters: impact on the properties of coatings filled with nanocelluloses*
- Zhang Z., 2010-13: *Chemical functionalization of nanofibrillated cellulose by alkoxy silanes: application to the elaboration of composites and foams*
- Jebrane M., 2006-09: *Chemical functionalization of wood by transesterification of vinyl esters*
- Cheumani Yona A., 2005-09: *Study of the structure of wood/ceements composites by NMR relaxometry*
- Tingaut P., 2003-06: *Modification of the chemical structure of wood by alkoxy silane molecules*
- Safou-Tchiama R., 2002-05: *Control of the dimensional instability of tropical wood species*

Post-doctoral fellows

- Dhuiège B., 2017; Dudefai W., 2018: *Chemical functionalization of cellulose nanocrystals for the design of microreactors based on multiple Pickering emulsions*
- Malho J-M., 2015-16: *Elaboration of bioadaptive hybrid hydrogels from cellulose nanocrystals grafted with elastin-like peptides*
- Enescu D., 2013-14: *Bioinspired flexible thin films based on renewable resources for optoelectronic applications*
- Özman N., 2004; Çetin N-S., 2004; Çetin N-S., 2006. *Study of the interchange reactions between acetylated wood and ester molecules or alkoxy silanes*

International collaborations

Chemistry department and Waterloo Institute of Nanotechnology/University of Waterloo (Canada); Lignocellulosic and Macromolecular Materials groups/ University of Aveiro (Portugal); Swiss Federal Laboratories for Materials Testing and Research-EMPA (Switzerland); Center for Renewable Carbon /University of Tennessee (USA); Centre for Advanced Wood Processing/University of British Columbia (Canada); Institute of Wood Biology and Technology/University of Göttingen (Germany), University of Yaoundé 1 (Cameroun); National Polytechnic Institute of Yamoussoukro (Côte d'Ivoire)

Professional activities and responsibilities

- **Adjunct Assistant Professor** at the *Department of Forestry, Wildlife, and Fisheries of the University of Tennessee (USA)*
- French representative (MC) at the **Management Committee** of the Action **COST FP1006** "Bringing new functions to wood through surface modification" (2011-2014)
- French representative (MC) at the **Management Committee** of the Action **COST FP1205** "Innovative Applications of regenerated wood cellulose fibres" (2013-2017)
- Expert in **wood nanotechnology** for the FQRNT (Fonds Québécois de Recherche sur la Nature et les Technologies) in Canada: member of the expert committee 'nanotechnologies-bois' in 2010 and 'Evaluation infrastructure en nanotechnologie' in 2011
- **External Examiner** for several Ph. D. Defences
- **Referee** for several funding organizations: *Natural Sciences and Engineering Research Council of Canada (NSERC); Agence National pour la Recherche (ANR)*
- **Referee** for several scientific journals: *Carbohydrate Polymers, ACS Sustainable Chemistry & Engineering, Langmuir, ChemSusChem, Cellulose, Materials Chemistry Frontiers, Biomacromolecules, Advanced Materials...*

Publications

- 1 - Chantereau G., Sharma M., Abednejad A., Vilela C., Costa E. M., Veiga M., Antunes F., Pintado M. M., Sèbe G., Coma V., Freire M. G., Freire C.S.R., Silvestre A.J.D. Bacterial nanocellulose membranes loaded with vitamin B-based ionic liquids for dermal care applications. *Journal of Molecular Liquids*, **2020**, 302:112547.

- 2 - Dhuiège B., Pecastaings G., Sèbe* G. A Sustainable approach for the Direct Functionalization of Cellulose Nanocrystals Dispersed in Water by Transesterification of Vinyl Acetate. *ACS Sustainable Chemistry & Ingineering*, **2019**, 7:187-196.
- 3 - Werner A., Schmitt V., Sèbe* G., Héroguez* V. Convenient synthesis of hybrid polymer materials by AGET-ATRP polymerization of Pickering emulsions stabilized by cellulose nanocrystals grafted with reactive moieties. *Biomacromolecules*, **2019**, 20:490-501.
- 4 - Sèbe* G., Simon A., Dhuiège B., Faure* C. Cu²⁺-loaded cellulose micro-beads applied to the direct patterning of metallic surfaces using a fast and convenient process. *Carbohydrate Polymers*, **2019**, 207:492-501.
- 5 - Zhang Z., Tam* K. C., Wang* X., Sèbe* G. A comparative study on grafting polymers from cellulose nanocrystals via SI-ATRP and SI-ARGET ATRP. *Carbohydrate Polymers*, **2019**, 205:322-329.
- 6 - Enescu* D., Gardrat C., Cramail H., Lecoz C., Sèbe* G., Coma* V. Bio-inspired films based on chitosan, nanoclays and cellulose nanocrystals: structuring and properties improvements by using water-evaporation-induced self-assembly. *Cellulose*, **2019**, 26(4):2389-2401.
- 7 - Chantreau G., Brown N., Dourges M.-A., Freire C. S. R., Silvestre A. J. D., Sebe* G., Coma* V. Silylation of bacterial cellulose to design membranes with intrinsic anti-bacterial properties. *Carbohydrate Polymers*, **2019**, 220:71-78.
- 8 - Chantreau G., Sharma M., Abednejad A., Neves B., Sebe G., Coma V., Freire M. G., Freire* C. S. R., Silvestre* A. J. D. Design of nonsteroidal anti-inflammatory drug-based ionic liquids with improved water solubility and drug delivery. *ACS Sustainable Chemistry & Engineering*, **2019**, 7:14126-14134.
- 9 - Werner A., Sèbe* G., Héroguez* V. A new strategy to elaborate polymer composites via Pickering emulsion polymerization of a wide range of monomers. *Polymer Chemistry*, **2018**, 9:5043-5050.
- 10 - Zhang Z., Tam* K. C., Sèbe* G., Wang* X. Convenient characterization of polymers grafted on cellulose nanocrystals via SI-ATRP without chain cleavage. *Carbohydrate Polymers*, **2018**, 199:603-609.
- 11 - Malho J-M., Brand J., Pecastaings G., Ruokolainen J., Gröschel A., Sèbe* G., Garanger* E., Lecommandoux* S. Multifunctional stimuli-responsive cellulose nanocrystals via dual surface modification with genetically engineered elastin-like polypeptides and poly(acrylic acid). *ACS Macro Letters*, **2018**, 7:646-6501.
- 12 - Zhang Z., Sèbe* G., Wang* X., Tam* K. C. UV-absorbing cellulose nanocrystals as functional reinforcing fillers in poly(vinyl chloride) films. *ACS Applied Nano Materials*, **2018**, 1:632-641.
- 13 - Zhang Z., Tam* K. C., Wang* X., Sèbe* G., Inverse Pickering emulsions stabilized by cinnamate modified cellulose nanocrystals as templates to prepare silica colloidosomes. *ACS Sustainable Chemistry & Engineering*, **2018**, 6:2583-2590.
- 14 - Zhang Z., Sèbe* G., Wang* X., Tam* K. C. Gold nanoparticles stabilized by poly(4-vinylpyridine) grafted cellulose nanocrystals as efficient and recyclable catalysts. *Carbohydrate Polymers*, **2018**, 182:61-68.
- 15 - Brand J., Pecastaings G., Sèbe* G. A versatile method for the surface tailoring of cellulose nanocrystal building blocks by acylation with functional vinyl esters. *Carbohydrate Polymers*, **2017**, 169:189-197.
- 16 - Werner A., Schmitt V., Sèbe* G., Héroguez* V. Synthesis of surfactant-free micro- and nanolatexes from Pickering emulsions stabilized by acetylated cellulose nanocrystals. *Polymer Chemistry*, **2017**, 8:6064-6072.
- 17 - Planes M., Brand J., Lewandowski S., Remaury S., Solé S., Le Coz C., Carlotti S., Sèbe* G. Improvement of the thermal and optical performances of protective polydimethylsiloxane space coatings with cellulose nanocrystal additives. *ACS Applied Materials and Interfaces*, **2016**, 8:28030-28039.
- 18 - Zhang Z., Tingaut P., Rentsch D., Zimmermann T., Sèbe* G. Controlled silylation of nanofibrillated cellulose in water: reinforcement of a model polysiloxane network. *ChemSusChem*, **2015**, 8:2681-2690.

- 19 - Zhao S., Zhang Z., Sèbe G., Wu R., Rivera Virtudazo R. V., Tingaut P., Koebel* M. M. Multiscale assembly of superinsulating silica aerogels within silylated nanocellulosic scaffolds: improved mechanical properties promoted by nanoscale chemical compatibilization. *Advanced Functional Materials*, **2015**, 25:2326-2334.
- 20 - Zhang Z., Sèbe* G., Rentsch D., Zimmermann* T., Tingaut* P. Ultra-lightweight and flexible silylated nanocellulose sponges for the selective removal of oil from water. *Chemistry of Materials*, **2014**, 26:2659-2668.
- 21 - Tingaut P., Sèbe* G. Nanocellulose : une éponge pour la récupération sélective des pollutions huileuses. *InfoChimie Magazine*, **2014**, N°527, pp 40-42.
- 22 - Tingaut P., Sèbe* G. Des mousses de nanocellulose pour piéger les hydrocarbures. *GreenNews Techno*, **2014**, N°148, p7.
- 23 - Sèbe* G., Ham-Pichavant F., Pecastaings, G. Dispersibility and emulsion-stabilizing effect of cellulose nanowhiskers esterified by vinyl acetate and vinyl cinnamate. *Biomacromolecules*, **2013**, 14:2937-2944.
- 24 - Evans* P.D., Gibson S.K., Cullis I., Liu C., Sèbe* G. Photostabilization of wood using low molecular weight phenol formaldehyde resin and hindered amine light stabilizer. *Polymer Degradation & Stability*, **2013**, 98:158-168.
- 25 - Tingaut* P., Zimmermann* T., Sèbe* G. Cellulose nanocrystals and microfibrillated cellulose as building blocks for the design of hierarchical functional materials. *Journal of Materials Chemistry*, **2012**, 22:20105-20111.
- 26 - Sèbe* G., Ham-Pichavant F., Ibarboure E., Koffi, A. L. C., Tingaut P. Supramolecular structure characterization of cellulose II nanowhiskers produced by acid hydrolysis of cellulose I substrates. *Biomacromolecules*, **2012**, 13:570-578.
- 27 - Jebrane* M., Terziev N., Sèbe G. Elaboration of novel acetylated wood with improved durability by chemical modification with vinyl acetate. *Proc. of the 6th European Conference on Wood Modification, Ljubljana (Slovénie)*, **2012**, September 16-18, pp 429-436.
- 28 - Jebrane M., Harper D., Labbe N., Sèbe* G. Comparative determination of the grafting distribution and viscoelastic properties of wood blocks acetylated by vinyl acetate or acetic anhydride. *Carbohydrate Polymers*, **2011**, 84:1314-1320.
- 29 - Jebrane M., Pichavant F., Sèbe* G. A comparative study on the acetylation of wood by reaction with vinyl acetate and acetic anhydride. *Carbohydrate Polymers*, **2011**, 83, 339-345.
- 30 - Sèbe G. A novel method for the functionalization of lignocellulosic fibers to control interfacial adhesion in Wood and BiofiberPlastic composites. *Proc. of the 5th International Wood Fibre Polymer Composites Symposium, Biarritz (France)*, **2011**, September 26-27.
- 31 - Cheumani Y. A. M., Ndikontar M., De Jéso B., Sèbe* G. Probing of wood–cement interactions during hydration of wood–cement composites by proton low-field NMR relaxometry. *Journal of Materials Science*, **2011**, 46:1167-1175.
- 32 - Çetin N.-S., Tingaut P., Özmen N., Henry N., Harper D., Dadmun M., Sèbe* G. The Acetylation of cellulose nanowhiskers with vinyl acetate under moderate conditions. *Macromolecular Bioscience*, **2009**, 9:997-1003.
- 33 - Sèbe* G., Jebrane M., Cullis I., Philip D. Evans*. Weathering and photostability of wood modified by aromatic vinyl esters. *Proc. of the 4th European Conference on Wood Modification, Stockholm, Sweden*, **2009**, April 27-29, pp 245-252
- 34 - Jebrane M., Sèbe* G., Cullis I., Philip D. Evans*. Vinyl benzoate photostabilizes wood whereas vinyl cinnamate and vinyl-4-T-butylbenzoate are less effective. *Proc. of the International Research Group on Wood Protection, Beijing (China)*, **2009**, May 24-28, IRG/WP 09-40452
- 35 - Jebrane M., Sèbe* G., Cullis I., Evans* P. D. Photostabilisation of wood using aromatic vinyl esters, *Polymer Degradation and Stability*, **2009**, 94:151-157.
- 36 - Dieste A., Krause A., Mai C., Sèbe G., Grelier S., Militz* H. Modification of *Fagus sylvatica* L. with 1,3-dimethylol-4,5-dihydroxy ethylene urea (DMDHEU). Part 2: Pore size distribution determined by differential scanning calorimetry. *Holzforschung*, **2009**, 63(1) :89-93.
- 37 - Jebrane M., Sèbe* G. A new process for the esterification of wood by reaction with vinyl esters, *Carbohydrate Polymers*, **2008**, 72:657-663.

- 38 - Sèbe* G. Chemical Functionalization of Lignocellulosic Polymers for the Control of Interfacial Adhesion in Wood and BiofiberPlastic Composites. *Proc. of the 9th International Conference on Woodfiber-Plastic Composites, Madison, WI, USA, Forest Products Society*, **2007**, May 21-23, pp 187-192.
- 39 - Jébrane M., Sèbe* G. A novel route to wood modification by transesterification with vinyl esters. *Proc. of the 3rd European Conference on Wood Modification, Cardiff, UK*, **2007**, October 15-16, pp 65-70.
- 40 - Safou-Tchiama R., De Jeso* B., Akagah A. G., Sèbe* G., Pétraud M. A preliminary survey of the interfacial bonding of some tropical hardwoods towards succinic anhydride and 2-octen-1-yl succinic anhydride molecules : impact of lignin and carbohydrates polymers structure on the chemical reactivity, *Industrial Crops and Products*, **2007**, 26:173-184.
- 41 - Jebrane M., Sèbe* G. A novel simple route to wood acetylation by transesterification with vinyl acetate, *Holzforschung*, **2007**, 61:143-147.
- 42 - Weigenand O., Militz H., Tingaut P., Sèbe G., De Jéso B., Mai*, C. Penetration of amino-silicone micro- and macro-emulsions into scots pine sapwood and the effect on water related properties, *Holzforschung*, **2007**, 61:51-59.
- 43 - Özmen N., Çetin N.S., Tingaut P., Sèbe* G. Transesterification reaction between acetylated wood and trialkoxysilane coupling agents, *Journal of Applied Polymer Science*, **2007**, 105:570-575.
- 44 - Tingaut P., Weigenand O., Mai, C., Militz H., Sèbe* G. Chemical reaction of alkoxy silane molecules in wood modified with silanol groups, *Holzforschung*, **2006**, 60:271-277.
- 45 - Özmen N., Çetin N.S., Tingaut P., Sèbe* G. A new route for the functionalisation of wood through transesterification reactions. *European Polymer Journal*, **2006**, 42:1617-1624.
- 46 - Sèbe* G. Fonctionnalisation chimique des fibres pour le contrôle de l'interface fibre/matrice des composites à renforts naturels. Exploration de nouvelles méthodes à base de composés organosiliciés, *Revue des Composites et des Matériaux avancés*, **2006**, 16(1): 89-100.
- 47 - Tingaut P., Weigenand O., Militz H., De Jéso B., Sèbe* G. Functionalisation of wood by reaction with 3-isocyanatopropyltriethoxysilane: Grafting and hydrolysis of the triethoxysilane end groups, *Holzforschung*, **2005**, 59(4):397-404.
- 48 - Çetin N.S., Özmen N., Tingaut P., Sèbe* G. New transesterification reaction between acetylated wood and tetramethoxysilane: a feasibility study, *European Polymer Journal*, **2005**, 41:2704-2710.
- 49 - Ham-Pichavant F., Sèbe G., Pardon P., Coma* V. Fat resistance properties of chitosan-based paper packaging for food applications, *Carbohydrate Polymers*, **2005**, 61:259-265.
- 50 - Tingaut P., Sèbe* G., Safou Tchiama R., De Jéso B., Grelier, S., Pétraud M. Modification de la structure chimique du bois à partir d'alcoxysilanes, *Les Cahiers Scientifiques du Bois*, **2005**, 3:225-234.
- 51 - Tingaut P., Weigenand O., Militz H., De Jéso B., Sèbe* G. Chemical grafting of reactive triethoxysilane end groups in maritime pine sapwood (*pinus pinaster* Soland), *Proc. of the 2nd Europ. Conf. on Wood Modification, Göttingen, Germany*, **2005**, October 6-7, pp. 215-221.
- 52 - Safou Tchiama R., De Jéso B., Akagah, A. G., Sèbe* G. Valorisation chimique des résidus de bois tropicaux d'Afrique. Caractérisation physico-chimique des constituants, *Les Cahiers Scientifiques du Bois*, **2005**, 3:141-156.
- 53 - Sèbe* G., Tingaut P., Safou Tchiama R., Pétraud M., Grelier, S., De Jéso B. Chemical reaction of maritime pine sapwood (*Pinus pinaster* Soland) with alkoxy silane molecules: A study of chemical pathways, *Holzforschung*, **2004**, 58:511-518.
- 54 - Clave E., François* J., Billon L., Sèbe G., De Jéso B., Guimon M.F. Crude and modified corncobs as complexing agents for water decontamination, *Journal of Applied Polymer Science*, **2004**, 91:820-826.
- 55 - Sèbe* G., Pardon P., Pichavant F., Grelier S., De Jéso B. An investigation into the use of eelgrass (*Zostera noltii*) for removal of cupric ions from dilute aqueous solutions, *Separation and Purification Technology*, **2004**, 38:121-127.
- 56 - De Jéso* B., Labbe N., Pétraud M., Ratier M., Sèbe G. Characterization of Wood Fibers for Wood-Plastic Composites: Non destructive nuclear magnetic resonance relaxometry analysis of secondary metabolites in Maritime pine fibers, *Proc. of the 7th Int. Conf. on Woodfiber-Plastic Composites, Madison, WI, USA, Forest Products Society*, **2003**, May 19-20, pp. 107-112.

- 57 - Sèbe G., Brook* M.A. Hydrophobization of wood surfaces: covalent grafting of silicone polymers, *Wood Science and Technology*, **2001**, 35:269-282.
- 58 - Cappelletto* P., Mongardini F., Brizzi M., Skinner J., Sèbe G., Hague J., Pasini P. Plant fibres in composites. Comparative results between hemp, kenaf and flax fibres. Preparation of raw material and final products, *Molecular Crystals and Liquid Crystals*, **2000**, 354:979-987.
- 59 - Hughes* M., Sèbe G., Hague J., Hill C.A.S., Spear M., Mott L. An investigation into the effects of microcompressive defects on interphase behaviour in hemp-epoxy composites using half-fringe photoelasticity, *Composite Interfaces*, **2000**, 7:13-29.
- 60 - Sèbe* G., Cétin N.S., Hill C.A.S., Hughes M. RTM Hemp Fibre-Reinforced polyester composites, *Applied Composite Materials*, **2000**, 7:341-349.
- 61 - Sèbe* G., De Jéso B. The dimensional stabilisation of maritime pine sapwood (*Pinus pinaster*) by chemical reaction with organosilicon compounds, *Holzforschung*, **2000**, 54: 474-480.
- 62 - Sèbe* G., Cétin N.S., Hill C.A.S. Resin Transfer Moulding of Hemp Fiber-Reinforced Polyester Composites, *Proc. of the 5th Int. Conf. on Woodfiber-Plastic Composites, Madison, WI, USA. Forest Products Society, May 26-27, 1999*, pp. 131-136.

Communications

As an invited speaker

- 1 - Sèbe G. **2019**. Functional materials based on nanocelluloses. *Department of Optics and Photonics, National Central University*, Chung-Li, Taiwan, April 8.
- 2 - Sèbe G. **2018**. Chemical functionalization of nanocelluloses for the design of innovative bio-based materials. *Centre de Recherche sur les Macromolécules Végétales - CNRS*, Grenoble, March 29.
- 3 - Sèbe G. **2017**. Control of the surface properties of cellulose nanocrystals by chemical functionalization: application to the design of novel functional bio-based materials. *Department of Optics and Photonics, National Central University*, Chung-Li, Taiwan, November 6.
- 4 - Sèbe G. **2015**. Fonctionnalisation chimique des nanocelluloses pour le design de nouveaux matériaux bio-sourcés. *Workshop Communauté Nanocellulose en France*, Grenoble, novembre 27.
- 5 - Sèbe G. **2015**. Surface tailoring of nanocelluloses by chemical functionalization. *Workshop U. Bordeaux – T. U. Linköping*, Bordeaux, Septembre 28.
- 6 - Sèbe G. **2015**. Une éponge en nanocellulose pour la récupération des pollutions d'hydrocarbures. *Séminaire CREATI Aquitaine*, CEA, Cestas, Septembre 16.
- 7 - Sèbe G. **2015**. Control of the surface properties of nanocellulose by chemical functionalization: application to the design of novel functional bio-based materials. *Workshop U. Bordeaux – T. U. Darmstadt*, Bordeaux, May 19.
- 8 - Sèbe G. **2014**. Chemical functionalization of wood and nanocelluloses for the design of novel bio-sourced materials. *SP Technical Research Institute of Sweden*, Stockholm (Suède), Decembre 11.
- 9 - Sèbe G. **2014**. Fonctionnalisation et auto-assemblage des nanocelluloses pour le design de nouveaux matériaux bio-sourcés. *Laboratoire de Synthèse et Fonctionnalisation des Céramiques*, Centre de Recherche et d'étude Européen de Saint-Gobain, Cavaillon, Septembre 11.
- 10 - Sèbe G. **2013**. Chemical functionalization of nanocelluloses for the design of novel bio-based nanomaterials. *Workshop U. Bordeaux – U. Mass*, University of Massachusetts, Amherst (USA), March 28.
- 11 - Sèbe G. **2013**. Fonctionnalisation chimique de la matière lignocellulosique pour le design de nouveaux matériaux biosourcés. *Workshop U. Bordeaux – U. Laval*, Bordeaux (France), February 14.
- 12 - Sèbe G. **2009**. Fonctionnalisation chimique de la matière lignocellulosique par transestérification des esters d'érol. *FPI Innovations - FORINTEK*, Québec (Canada), July 13.
- 13 - Sèbe G. **2008**. Control of the supramolecular properties of lignocellulosic materials by chemical functionalization. *Forest Products Center, University of Tennessee*, Knoxville (U.S.A.), May 30.
- 14 - Sèbe G. **2008**. Chemical functionalization of wood by reaction with alkoxy silanes and transesterification with vinyl esters. *Faculty of Forestry, University of Kahramanmaraş*, Kahramanmaraş (Turquie), January 8.

- 15 - Sèbe G., **2007**. Chemical Functionalization of Lignocellulosic Polymers for the Control of Interfacial Adhesion in Wood and BiofiberPlastic Composites. *Forest Products Center, University of Tennessee*, Knoxville (U.S.A.), May 25.
- 16 - Sèbe G. **2005**. Rôle des interfaces dans le comportement rhéologique des composites à matrice thermoplastique renforcés par des fibres végétales : méthodes de fonctionnalisation chimique des fibres pour le contrôle de l'interface fibre/matrice. *Journées Scientifiques et Techniques AMAC*, Lorient, June 9-10.
- 17 - Sèbe G, Tingaut P., De Jéso B., Grelier, S. **2003**. Reaction of wood with alkoxy silanes: a study of chemical pathways. *Workshop on Optimisation and Remediation of Preservatives*, Zagreb (Croatia), September 22-23.
- 18 - Sèbe G. **2001**. Chemical modification of wood with organosilicon compounds: dimensional stabilization and hydrophobisation. *Thematic Network on Wood Modification*, Beaumaris (UK), april 26-27.
- 19 - Sèbe G. **2001**. De nouveaux renforts pour les matériaux composites : les fibres végétales. *X^{ème} journée "Horizon Composites"*, Bordeaux (France), February 1st.

Other oral communications

- 1 - Sèbe G., Dhuiège B., **2019**. Control of the surface properties of cellulose nanocrystals by acylation in water medium. *5th International Symposium on Green Chemistry*, La Rochelle (France), May 13-17.
- 2 - Enescu D., Coma V., Sèbe G., Pastrana L., Cerqueira M., Fuciños P. **2018**. Nanotechnology applied to marine polysccharides - potential biobased packaging films. *15th European Vacuum Conference*, Geneva (Switzerland), June 17-22.
- 3 - Werner A., Sèbe G., Héroguez V. **2018**. Formation and polymerization of Pickering emulsions stabilized by modified Cellulose Nanocrystals. *Polymer Chemistry - Euroscicon*, Vienna (Austria), March 26-28.
- 4 - Sèbe G., Werner A., Héroguez V., Zhang Z. **2018**. Pickering emulsions stabilized by esterified cellulose nanocrystals: application to the elaboration of polymer latexes and colloidosomes. *255th ACS National Meeting & Exposition*, New Orleans (USA), March 18-22.
- 5 - Werner A., Sèbe G. Héroguez V. **2017**. Pickering emulsions stabilized by modified cellulose nanocrystals: from emulsions to latexes. *Formula IX*, Beijing (Chine), October 15-18.
- 6 - Schmitt V., Werner A., Sèbe G. Héroguez V. **2017**. Polymerization of Pickering aqueous emulsions stabilized by modified cellulose nanocrystals. *Club Emulsion*, Villeurbanne (France), October 16-17.
- 7 - Sèbe G., Brand J., Dhuiège B., Werner A., Héroguez V. **2017**. Control of the surface properties of cellulose nanocrystals by acylation with functional vinyl esters: application to the design of innovative fillers or Pickering surfactants. *253th ACS National Meeting & Exposition*, San Fransisco (USA), April 2-6.
- 8 - Zhang Z., Sèbe G., Wang X. **2017**. Enhanced Thermal Stability and UV Resistance of Poly(vinyl chloride) (PVC) Reinforced with Poly(Cinnamoyloxy Ethyl Methacrylate) Grafted Cellulose Nanocrystal (PCEM-g-CNC). *7th IDS-FunMat Annual Meeting & Training School*, Aveiro (Portugal), March 26-31.
- 9 - Werner A., Héroguez V., Sèbe G. **2017**. Preparation of cellulose nanocrystals/polymer composite films from Pickering emulsion systems. *Workshop on cellulose material properties and industrial potential, COST FP1205*, Stockholm (Sweden), March 7-9.
- 10 - Dhuiège B., Sèbe G. **2017**. Single-step aqueous functionalization and predispersion of cellulose nanocrystals in PVAc polymerized *in-situ*. *Workshop on cellulose material properties and industrial potential, COST FP1205*, Stockholm (Sweden), March 7-9.
- 11 - Werner A., Sèbe G. Héroguez V. **2016**. Synthèse de nanolatex à partir d'émulsion de Pickering stabilisées par des nanocristaux de cellulose. *Club Emulsion*, Castres, France, October 3-4.
- 12 - Brand J., Planes M., Lewandowski S., Remaury S., Solé S., Le Coz C., Carlotti S., Sèbe G.. **2016**. Utilization of cellulose nanocrystals as additives for the improvement of thermal and photostability of aerospace coatings. *2016 International Conference on Nanotechnology for Renewable Materials*, Grenoble (France), June 13-16.

- 13 - Zhang Z., Sèbe G., Wang X. **2016**. Convenient techniques to characterize the grafting “living” polymerization using cellulose nanocrystals (CNC) initiators. *Thirty-eighth Annual Symposium on Polymer Science/Engineering*, Waterloo (Canada), May 4, 2016.
- 14 - Werner A., Sèbe G. Héroguez V. **2016**. Polymerization of reactive Pickering Emulsions based on functionalized cellulose nanocrystals. *Workshop on cellulose material properties and industrial potential, COST FP1205*, Borås, (Sweden), April 13-14.
- 15 - Dhuiège B., Sèbe G. **2016**. Acetylation of Nanocellulose in Water and Impact on the reinforcing properties in Natural Rubber Composites. *Workshop on cellulose material properties and industrial potential, COST FP1205*, Borås, (Sweden), April 13-14.
- 16 - Zhang Z., Sèbe G., Wang X. **2016**. Grafting Polymers on Cellulose NanoCrystals (CNC) by Surface Initiated Atom Transfer Radical Polymerization (SI ATRP). *6th IDS-FunMat Annual Meeting & Training School*, Latresne, France, March 13-18, 2016.
- 17 - Dhuiège B., Sèbe G. **2016**. A comparative study on the reinforcing properties in rubber of cellulose nanocrystals and nanofibrils functionalized in water. *251th ACS National Meeting & Exposition*, San Diego (USA), March 13-17.
- 18 - Brand J., Sèbe G. **2015**. Transesterification of vinyl esters: a versatile platform for the surface tailoring of cellulose nanocrystals. *4th EPNOE International Polysaccharide Conference*, Varsovie (Poland), October 19-22.
- 19 - Tingaut P., Zhang Z., Rentsch D., Zimmermann T., Sèbe G. **2015**. Functionalization of nanofibrillated cellulose with alkoxysilanes in water and reinforcing properties in PDMS networks. *249th ACS National Meeting & Exposition*, Denver (USA), March 22-26.
- 20 - Tingaut P., Zimmermann T., Sèbe G. **2015**. Synthesis of functional sponges from nanofibrillated cellulose using a silylation process in water. *249th ACS National Meeting & Exposition*, Denver (USA), March 22-26.
- 21 - Brand J., Sèbe G. **2015**. Control of the surface properties of cellulose nanocrystals by transesterification of vinyl esters. *249th ACS National Meeting & Exposition*, Denver (USA), March 22-26.
- 22 - Dhuiège B., Sèbe G. **2015**. Characterization and reinforcing properties of cellulose nanocrystals esterified in water. *249th ACS National Meeting & Exposition*, Denver (USA), March 22-26.
- 23 - Zhang Z., Wang X., Sèbe G. **2015**. ATRP grafting polymerization using cellulose nanocrystals (CNC) as nanoinitiators for functional hybrid nanomaterials. *5th IDS-FunMat Annual Meeting & Training School*, Vallendar, Germany, March 15-20.
- 24 - Brand J., Sèbe G. **2014**. Control of the surface properties of cellulose nanocrystals by transesterification of vinyl esters. *Workshop on ongoing modification of cellulose nanofibers and their potential applications, COST FP1205*, Madrid, (Spain), October 15-16.
- 25 - Tingaut P., Zhang Z., Rentsch D., Zimmermann T., Sèbe G. **2014**. Design of hierarchical silylated nanocellulose sponges for the selective removal of oil from water. *2nd International Conference on Biotinspired and biobased chemistry & materials*, Nice, October 15-17.
- 26 - Sèbe G., Ham-Pichavant F., Pecastaings G. **2013**. Emulsion-stabilizing effect of cellulose nanowhiskers esterified by vinyl esters. *EPNOE 2013 International Polysaccharide Conference*, Nice, October 21-24.
- 27 - Zhang Z., G. Sèbe, D. Rentsch, T. Zimmermann, P. Tingaut **2013**. Silylated nanofibrillated cellulose as building block for the elaboration of foams with tunable properties. *EPNOE 2013 International Polysaccharide Conference*, Nice, October 21-24.
- 28 - Sèbe G., Ham-Pichavant F., Ibarboure E., Koffi A. L. C., Tingaut P. **2012**. Synthèse et caractérisation de nouveaux nanocristaux cellulosiques de type II. *41^e Colloque National GFP 2012*, Grenoble, 19-22 November.
- 29 - Zhang Z., Tingaut P., Zimmermann T., Sèbe G. **2012**. Silylated cellulose nanofibrils in polymer nanocomposites. *Tappi International Conference on Nanotechnology for renewable materials*, Montréal (Canada), October 5-7.
- 30 - Jebrane M., Terziev N., Sèbe G. **2012**. Elaboration of novel acetylated wood with improved durability by chemical modification with vinyl acetate. *6th European Conference on Wood Modification*, Ljubljana (Slovénie), September 16-18.
- 31 - Sèbe G.. **2011**. A novel method for the functionalization of lignocellulosic fibers to control interfacial adhesion in Wood and BiofiberPlastic composites. *5th International Wood Fibre Polymer Composites Symposium*, Biarritz (France), September 26-27.

- 32 - Çetin N.-S., Tingaut P., Özmen N., Henry N., Harper D., Dadmun M., Sèbe G. **2010**. Chemical functionalization of cellulose nanowhiskers by reaction with vinyl esters. *239th ACS National Meeting & Exposition*, San Francisco (USA), March 21-24
- 33 - Jebrane M., Sèbe G., Cullis I., Philip D. Evans. **2009**. Vinyl benzoate photostabilizes wood whereas vinyl cinnamate and vinyl-4-T-butylbenzoate are less effective. *The international research group on wood protection*, Beijing (China), May 24-28.
- 34 - Sèbe G., Jebrane M., Cullis I., Philip D. Evans. **2009**. Weathering and photostability of wood modified by aromatic vinyl esters. *4th European Conference on Wood Modification*, Stockholm (Sweden), April 27-29.
- 35 - Jebrane M., Sèbe G. **2008**. Vers une nouvelle voie de fonctionnalisation chimique du bois à partir des esters d'énols. *Colloque Arbora*, Bordeaux, November 20-21.
- 36 - Tingaut P., Weigenand O., Mai, C., Militz H., Sèbe G. **2007**. Fixation of methyltrimethoxysilane in wood pre-modified with an alkoxy silane coupling agent. *3rd European Conference on Wood Modification*, Cardiff (UK), October 15-16.
- 37 - Jebrane M., Sèbe G. **2007**. A novel route to wood modification by transesterification with vinyl esters. *3rd European Conference on Wood Modification*, Cardiff (UK), October 15-16.
- 38 - Sèbe G. **2007**. Chemical functionalisation of lignocellulosic polymers for the control of interfacial adhesion in Wood and BiofiberPlastic composites. *9th International Conference on Woodfiber-Plastic Composites*, Madison (USA), May 21-23.
- 39 - Tingaut P., De Jéso B., Sèbe G. **2006**. Chemical modification of the molecular structure of wood to improve its material performances: reaction with silicon compounds. *Wood as a Building Material – International PhD workshop*, Trondheim (Norway), May 2-4.
- 40 - Tingaut P., Weigenand O., Militz H., De Jéso B., Sèbe G. **2005**. Chemical grafting of reactive triethoxysilane end groups in maritime pine sapwood (*Pinus pinaster* Soland). *2nd European Conference on Wood Modification*, Göttingen (Germany), October 6-7.
- 41 - Tingaut P., Sèbe G., De Jéso B. **2004**. Modification de la structure chimique du bois à partir de composés organosiliciés. *6ème Colloque Sciences et Industrie du Bois*, Epinal (France), November 2-4.
- 42 - De Jéso B., Labbe N., Petraud M., Ratier M., Sèbe G. **2003**. Characterization of wood fibers for Wood-Plastic Composites: non destructive nuclear magnetic resonance relaxometry Analysis of Secondary Metabolites in Maritime Pine Fibers. *7th International Conference on Woodfiber-Plastic Composites*, Madison (USA), May 19-20.

Posters

- 1 - Werner A., Sèbe G., Héroguez V. **2018**. Elaboration and AGET-ATRP polymerization of Pickering emulsions stabilized by modified cellulose nanocrystals. *Bordeaux Polymer Conference*, Bordeaux, May 28-31.
- 2 - Chantreau G., Sharma M., Abednejad A., Freire M. G., Ghaei A., Sèbe G., Coma V., Freire C.S.R., Silvestre A.J.D. **2018**. Incorporation of non-steroidal anti-inflammatory drugs-based ionic liquids in bacterial cellulose for transdermal drug delivery. *CICECO Jornadas*, Aveiro (Portugal) June 11-12.
- 3 - Werner A., Sèbe G., Héroguez V. **2017**. Cellulose nanocrystals (CNCs): promising nanoparticles in emulsion stabilization field. *16^{ème} Journée Ecole Doctorale des Sciences Chimiques*, Talence (France), May 5.
- 4 - Chantreau G., Sèbe G., Freire C. S. R., Silvestre A. J. D., Coma V. **2017**. Sustainable functionalization of bacterial cellulose for the design of innovative bio-based nanomaterials. *9th Workshop on Fats and Oils*, Karlsruhe (Germany), March 20-22.
- 5 - Chantreau G., Sèbe G., Freire C. S. R., Silvestre A. J. D., Coma V. **2017**. Functionalization of bacterial cellulose for the design of bioactive nanomaterials. *Bio2actives*, Quimper (France), July 6-7.
- 6 - Zhang Z., Sèbe G., Wang X., Tam K. C. **2016**. Recoverable Au nanoparticles stabilized by sustainable Cellulose Nanocrystals (CNC) for efficient catalysis of 4-nitrophenol. *7th Annual Nano Ontario Conference*, Guelph (Canada), November 10-11.
- 7 - Dhuiège B., Plawinski L., Durrieu M-C., Sèbe G. **2016**. Synthesis and characterisation of nanocellulose aerogels for the elaboration of innovative biosourced bone substitutes. *Workshop on cellulosic materials – processing, properties and promising application*, COST FP1205, Budapest (Hungary), September 22-23.

- 8 - Werner A., Sèbe G. Héroguez V. **2016**. A novel method to produce polymer nanolatexes by Pickering emulsification with cellulose nanocrystals (CNCs). *Workshop on cellulosic materials – processing, porperties and promising application, COST FP1205*, Budapest (Hungary), September 22-23.
- 9 - Werner A., Sèbe G. Héroguez V. **2016**. A novel method to produce polymer nanolatexes by Pickering emulsification with cellulose nanocrystals (CNCs). *30th Conference of the European Colloid and Interface Society*, Rome (Italy), September 4-9.
- 10 - Zhang Z., Sèbe G., Wang X. **2016**. Grafting Polymers on Cellulose NanoCrystals (CNC) by Surface Initiated Atom Transfer Radical Polymerization (SI ATRP). *6th IDS-FunMat Annual Meeting & Training School*, Latresne (France), March 13-18.
- 11 - Dhuiège B., Sèbe G. **2015**. Surface acetylation of cellulose nanocrystals in water by multi-esterification with vinyl acetate. *4th EPNOE International Polysaccharide Conference*, Varsovie, 19-22 Octobre.
- 12 - Dhuiège B., Sèbe G. **2015**. Surface acetylation of cellulose nanocrystals in water by multi-esterification with vinyl acetate. *International Symposium on Ionic Polymerization*, Bordeaux, 5-10 juillet.
- 13 - Brand J., Ham-Pichavant F., Coma V., Sèbe G. **2015**. Control of the surface properties of cellulose nanocrystals by transesterification of vinyl esters. *17^{ème} Journée de l'école doctorale des Sciences Chimiques*, Bordeaux, 17 Avril.
- 14 - Chan G., Sèbe G., Evans P., Brand J. **2014** Termite resistance of Scots pine modified with vinyl acetate, vinyl benzoate or phenol formaldehyde resin. *American Wood Protection Association Annual meeting*, Newport Beach (USA), May 4-6 (« 1st runner-up prize » of the poster contest).
- 15 - Brand J., Ham-Pichavant F., Coma V., Sèbe G. **2014**. Chemical functionalization of cellulose nanocrystals for photovoltaic applications. *Workshop on Science and uses of nanocellulose*, Bangor (Grande-Bretagne), March 5-6 (3rd prize at the poster contest).
- 16 - Zhang Z., Tingaut P., Zimmermann T., Sèbe G. **2011**. Novel silicone nanocomposites reinforced with functionalized microfibrillated cellulose. *3rd International Conference on Biodegradable and Biobased Polymers (Biopol)*, Strasbourg, August 31.