

## List of scientific activity

### Articles in ISI Journals:

1. **C.–M. Popescu**, C. Vasile, M.–C. Popescu, Gh. Singurel, B.S. Munteanu, V.I. Popa, Analytical methods for lignin characterisation. II) Spectroscopical studies, *Cellulose Chem. Technol.* 40(8), 597–622 (2006)
2. **C.–M. Popescu**, C. Vasile, M.–C. Popescu, Gh. Singurel, Degradation of lime wood painting supports II. Spectral characterisation, *Cellulose Chem. Technol.* 40(8), 649–658 (2006)
3. **C.–M. Popescu**, G. Cazacu, Gh. Singurel, C. Vasile, Study of the process of the water desorption from lignins, *Rom. J. Phys.* 51(1-2), 259-264 (2006)
4. **C.–M. Popescu**, G. Dobeles, G. Rossinskaja, T. Dizhbite, C. Vasile, Degradation of lime wood painting supports. Evaluation of changes in the structure of aged lime wood by different physico-chemical methods, *J. Anal. Appl. Pyrol.* 79, 71–77 (2007)
5. **C.–M. Popescu**, M.–C. Popescu, Gh. Singurel, C. Vasile, D.S. Argyropoulos, S. Willför, Spectral characterization of Eucalyptus wood, *Appl. Spectrosc.* 61(11), 1168–1177 (2007)
6. **C.–M. Popescu**, C.M. Tibirna, I.E. Raschip, M.–C. Popescu, P. Ander, C. Vasile, Bulk and surface characterization of unbleached and bleached softwood kraft pulp fibres, *Cellulose Chem. Technol.* 42(9-10), 525–547 (2008)
7. **C.–M. Popescu**, G. Singurel, M.–C. Popescu, C. Vasile, D.S. Argyropoulos, S. Willför, Vibrational spectroscopy and X-ray diffraction methods to establish the differences between hardwood and softwood, *Carbohydr. Polym.* 77, 851–857 (2009)
8. **C.–M. Popescu**, C.M. Tibirna, C. Vasile, XPS characterization of naturally aged wood, *Appl. Surf. Sci.* 256(5), 1355-1360 (2009)
9. **C.–M. Popescu**, M.–C. Popescu, C. Vasile, Structural changes in biodegraded lime wood, *Carbohydr. Polym.* 79(2), 362-372 (2010)
10. **C.–M. Popescu**, G. Lisa, A. Manoliu, P. Gradinariu, C. Vasile, Thermogravimetric analysis of fungus-degraded lime wood, *Carbohydr. Polym.* 80(1), 78-83 (2010)
11. **C.–M. Popescu**, M.–C. Popescu, C. Vasile, Characterization of fungal degraded lime wood by FT-IR and 2D IR correlation spectroscopy, *Microchem. J.* 95(2), 377-387 (2010)
12. **C.–M. Popescu**, A. Manoliu, G. Lisa, P. Gradinariu, C. Vasile, Thermal behavior of biodegraded lime wood, *Carbohydr. Res.* 345(9), 1149-1155 (2010)
13. **C.–M. Popescu**, P.T. Larsson, C.M. Tibirna, C. Vasile, Characterization of fungal degraded lime wood by XRD and CP/MAS <sup>13</sup>C-NMR spectroscopy, *Appl. Spectrosc.* 64(9), 1054-1060 (2010)
14. **C.–M. Popescu**, P.T. Larsson, C. Vasile, Carbon-13 CP/MAS solid state NMR and X-ray diffraction spectroscopy studies on lime wood decayed by *Chaetomium globosum*, *Carbohydr. Polym.* 83(2), 808-812 (2011)
15. **C.–M. Popescu**, I. Spiridon, C.M. Tibirna, C. Vasile, A thermogravimetric study of structural changes of lime wood (*Tilia cordata* Mill.) induced by exposure to simulated accelerated UV/Vis-light, *J. Photochem. Photobiol, Part A: Chem.* 217(1), 207-212 (2011)
16. C. Vasile, **C.–M. Popescu**, M.–C. Popescu, M. Brebu, S. Willfor, Thermal behaviour/treatment of some vegetable residues. IV. Thermal decomposition of the Eucalyptus wood, *Cellulose Chem. Technol.* 45(1-2), 29-42 (2011)
17. M.–C. Popescu, **C.–M. Popescu**, G. Lisa, Y. Sakata, Evaluation of morphological and chemical aspects of different wood species by spectroscopy and thermal methods, *J. Mol. Struct.* 988, 65-72 (2011)
18. **C.–M. Popescu**, M.–C. Popescu, C. Vasile, Structural analysis of photodegraded lime wood by means of FT-IR and 2D IR correlation spectroscopy, *Int. J. Biol. Macromol.* 48(4) 667-675 (2011)
19. **C.–M. Popescu**, C.M. Tibirna, C. Vasile, Thermogravimetric analysis of photodegraded acrylic coated lime wood, *Photochem. Photobiol.* 87, 779–785 (2011)
20. E.G. Ioanid, A. Ioanid, D.E. Rusu, **C.–M. Popescu**, I. Stoica, Surface changes upon high-frequency plasma treatment of heritage photographs, *J. Cult. Herit.* 12(4), 399-407 (2011)

21. **C.-M. Popescu**, C.M. Tibirna, Al. Manoliu, P. Gradinariu, C. Vasile, Microscopical study of the changes in lime wood following decay by *Chaetomium globosum*, *Cellulose Chem. Technol.* 45(9-10), 565-569 (2011)
22. **C.-M. Popescu**, P.T. Larsson, N. Olaru, C. Vasile, Spectroscopic study of acetylated kraft pulp fibers, *Carbohydr. Polym.* 88(2), 530-536 (2012)
23. **C.-M. Popescu**, C. Vasile, B.C. Simionescu, Spectral characterization of natural resins used in conservation, *Rev. Roum. Chim.* 57(4-5), 495-499 (2012)
24. M.-C. Popescu, J. Froidevaux, P. Navi, **C.-M. Popescu**, Structural modifications of *Tilia cordata* wood during heat treatment investigated by FT-IR and 2D IR correlation spectroscopy, *J. Mol. Struct.* 1033, 176-186 (2013)
25. **C.-M. Popescu**, B.C. Simionescu, Structural study of photodegraded acrylic-coated lime wood using Fourier transform infrared and two-dimensional infrared correlation spectroscopy, *Appl. Spectrosc.* 67(6), 606-613 (2013)
26. **C.-M. Popescu**, M.-C. Popescu, A near infrared spectroscopic study of the structural modifications of lime (*Tilia cordata* Mill.) wood during hydro-thermal treatment, *Spectrochim. Acta A: Mol. Biomol. Spectrosc.* 115, 227-233 (2013)
27. **C.-M. Popescu**, C.A.S. Hill, The water vapour adsorption-desorption behaviour of naturally aged *Tilia cordata* Mill. wood, *Polym. Degrad. Stab.* 98(9), 1804-1813 (2013)
28. **C.-M. Popescu**, D.E. Demco, M. Möller, Solid state <sup>13</sup>C CP/MAS NMR spectroscopy assessment of historic lime wood, *Polym. Degrad. Stab.* 98(12), 2730-2734 (2013)
29. E. Parparita, R.N. Darie, **C.-M. Popescu**, M.A. Uddin, C. Vasile, Structure-morphology-mechanical properties relationship of some polypropylene/lignocellulosic composites, *Mater. Des.* 56, 763-772 (2014)
30. **C.-M. Popescu**, C. Hill, S. Curling, G. Ormondroyd, Y. Xie, The water vapour sorption behaviour of acetylated birch wood: how acetylation affects the sorption isotherm and accessible hydroxyl content, *J. Mater. Sci.* 49(5), 2362-2371 (2014)
31. M.-C. Popescu, G. Lisa, J. Froidevaux, P. Navi, **C.-M. Popescu**, Evaluation of the thermal stability of thermo-hydro-mechanically treated lime (*Tilia cordata*) wood, *Wood Sci. Technol.* 48(1), 85-97 (2014)
32. **C.-M. Popescu**, C.A.S. Hill, R. Anthony, G. Ormondroyd, S. Curling, Dynamic vapour water sorption properties of biochar derived from apple wood: The relationship between the water sorption properties, charring time and wood structure, *Polym. Degrad. Stab.* 111, 263-268 (2015)
33. L. Tolvaj, **C.-M. Popescu**, Z. Molnar, E. Preklet, Dependence of the Air Relative Humidity and Temperature on the Photodegradation Processes of Beech and Spruce Wood Species, *BioResources* 11(1), 296-305 (2016)
34. **C.-M. Popescu**, C.A.S. Hill, M.-C. Popescu, Water adsorption in acetylated birch wood evaluated through near infrared spectroscopy, *Int. Wood Prod. J.* 7(2), 61-65 (2016)
35. **C.-M. Popescu**, C.A.S. Hill, C. Kennedy, Variation in the sorption properties of historic parchment evaluated by dynamic water vapour sorption, *J. Cult. Herit.* 17, 87-94 (2016)
36. **C.-M. Popescu**, P. Gradinariu, M.-C. Popescu, Structural analysis of lime wood biodegraded by white rot fungi through infrared and two dimensional correlation spectroscopy techniques, *J. Mol. Struct.* 1124, 78-84 (2016)
37. M.-C. Popescu, B.-I. Dogaru, **C.-M. Popescu**, The influence of cellulose nanocrystals content on the water sorption properties of bio-based composite films, *Mater. Des.* 132, 170-177 (2017)
38. **C.-M. Popescu**, P. Navi, M.I. Placencia Peña, M.-C. Popescu, Evaluation of the structural changes occurring in wood during hydro-thermal and thermal treatment using NIR spectroscopy and principal component analysis, *Spectrochim Acta A: Molec. Biomolec. Spectrosc.* 191, 405-412 (2018)
39. M. Broda, **C.-M. Popescu**, Natural decay of archaeological oak wood versus artificial degradation processes — An FT-IR spectroscopy and X-ray diffraction study, *Spectrochim Acta A: Molec. Biomolec. Spectrosc.* 209, 280-287 (2019)

40. E.G. Ioanid, V. Frunza, D.E. Rusu, A.M. Vlad, G. Savin, **C.-M. Popescu**, Behavior of Historical Printing Inks on Paper in High-Frequency Cold Plasma Discharges, *IEEE Transactions on Plasma Sci.* 47(1), 81-85 (2019)
41. **C.-M. Popescu**, D. Jones, D. Kržišnik, M. Humar, Determination of the effectiveness of a combined thermal/chemical wood modification by the use of FT-IR spectroscopy and chemometric methods, *J. Mol. Struct.* 1200,127133 (2020)
42. **C.-M. Popescu**, A. Pfriem, Treatments and modification to improve the reaction to fire of wood and wood based products—An overview, *Fire and Materials*, 44(1), 100-111 (2020)
43. **C.-M. Popescu**, D. Jones, J. Schalnath, K. Segerholm, M. Henriksson, M. Westin, Structural characterization and mechanical properties of wet-processed fibreboard based on chemo-thermomechanical pulp, furanic resin and cellulose nanocrystals, *Int. J. Biol. Macromol.* 145, 586–593 (2020)
44. D. Sun, A.J. Onyianta, D. O'Rourke, G. Perrin, **C.-M. Popescu**, L.H. Saw, Z. Cai, M. Dorris, A process for deriving high quality cellulose nanofibrils from water hyacinth invasive species, *Cellulose* 27, 3727–3740 (2020)
45. M. Broda, I. Dąbek, A. Dutkiewicz, M. Dutkiewicz, **C.-M. Popescu**, B. Mazela, H. Maciejewski, Organosilicons of different molecular size and chemical structure as consolidants for waterlogged archaeological wood – a new reversible and retreatable method, *Scientific Reports*, 10(1), 2188 (2020)
46. M.-C. Popescu, B.-I. Dogaru, **C.-M. Popescu**, Effect of cellulose nanocrystals nanofiller on the structure and sorption properties of carboxymethyl cellulose-glycerol-cellulose nanocrystals nanocomposite systems, *Materials*, 13(13), 2900 (2020)
47. A.J. Onyianta, D. O'Rourke, D. Sun, **C.-M. Popescu**, M. Dorris, High aspect ratio cellulose nanofibrils from macroalgae *Laminaria hyperborea* cellulose extract via a zero-waste low energy process, *Cellulose*, 27(14), 7997-8010 (2020)
48. E. Robles, N. Izaguirre, B.-I. Dogaru, **C.-M. Popescu**, I. Barandiaran, J. Labidi, Sonochemical production of nanoscaled crystalline cellulose using organic acids, *Green Chemistry*, 22(14), 4627-4639 (2020)
49. **C.-M. Popescu**, M. Broda, Interactions between different organosilicons and archaeological waterlogged wood evaluated by infrared spectroscopy, *Forests*, 12(3), 268 (2021)

#### **Articles in other journals:**

1. L. Nita, N. Tudorache, A. Chiriac, **C.-M. Popescu**, M. Pascu, C. Vasile, The binding possibility of procaine to a biodegradable macrostructure, *Medico-Surgical Journal of the Medical and Naturist Society (Iasi)*, 107(2), 250-253 (2003)
2. **C.-M. Popescu**, M.-C. Popescu, D. Filip, C. Vasile, D. Macocinschi, Gh. Singurel, Thermal study of some polymer blends and low molecular weight liquid crystals, *Scientific Review V. Adamachi, the XIth volume*, 1, 166-167 (2003)
3. G. Cazacu, **C.-M. Popescu**, V.I. Popa, Gh. Singurel, C. Vasile, FT-IR spectroscopy for lignins characterisation, *Third Conference Isotopic and Molecular Processes, Studia Univ. Babeş – Bolyai Physica, Special Issue II*, 434-437 (2003)
4. **C.-M. Popescu**, M.-C. Popescu, V.I. Popa, Gh. Singurel, C. Vasile, FT-IR spectroscopy and thermogravimetry for lignins characterisation, *Analele Universitatii de Vest din Timisoara, series: Physics*, 44, 69–73 (2003)
5. L.E. Nita, **C.-M. Popescu**, A.P. Chiriac, C. Vasile, Drugs release profile from the systems based on polyvinyl matrix by UV characterisation, *Analele Universitatii de Vest din Timisoara, series: Physics*, 44, 203–206 (2003)
6. **C.-M. Popescu**, Y. Sakata, M.-C. Popescu, A. Osaka, C. Vasile, Degradation of lime wood painting supports, *e-PRESERVATION Science*, 2, 19–29 (2005)
7. P.T. Larsson, **C.-M. Popescu**, C. Vasile, A comparative CP/MAS <sup>13</sup>C-NMR and XRD study of the cellulose supra-molecular structure in softwood kraft pulp fibers, *Papiripar, Special issue*, 6, 234-237 (2008)
8. **C.-M. Popescu**, Characterization of lime wood used as support for an icon, *Buletinul Centrului de Restaurare Conservare Iasi*, 1, 79-85 (2009)

9. **C.–M. Popescu**, M.–C. Popescu, B.C. Simionescu, 2D IR Correlation spectroscopy in wood science, *Memoirs of the Scientific Sections*, Series IV, Tome XXXV, 33-54 (2012)
10. **C.-M. Popescu**, N. Zeniya, K. Endo, T. Genkawa, E. Obataya, Modifications in spruce wood structure following hydro-thermal treatment evaluated by NIR spectroscopy, *Pro Ligno*, 15(4), 48-54 (2019)

#### **Book chapters:**

1. C. Vasile, **M.–C. Popescu**, A. Stoleriu, R. Gosselink, Thermal characterization of lignins, in *New Trends in Natural and Synthetic Polymer Science*, Eds. C. Vasile, G.E. Zaikov, Nova Science Publishers Inc, p. 135–163(2006)
2. C. Vasile, M. Brebu, **C.–M. Popescu**, Thermal modification of lignocellulosic materials and lignin (pyrolysis), in: *Lignin, source for raw materials and energy*, Eds. G. Cazacu, M. Totolin, Ed. Pim, p. 174-274 (2010)
3. **C.–M. Popescu**, Carrageenan – in food packaging and coatings, in *New polymeric food packaging*, Eds. C. Vasile, C.N. Cheaburu, Ed. Pim, p. 200-244 (2010)
4. **C.–M. Popescu**, T.P. Larsson, Solid state NMR characterisation of cellulose acetate and lime wood cellulose, *COST E54 Book* p. 125-130 (2011)
5. **C.–M. Popescu**, M. Totolin, C.M. Tibirna, M.–C. Popescu, P. Ander, C. Vasile, Structural and morphological characterization of unmodified and grafted unbleached and bleached softwood kraft pulp fibres, *COST E54 Book* p. 253-266 (2011)
6. D. Jones, G. Ormondroyd, S. Curling, **C.–M. Popescu**, M.–C. Popescu, Chemical compositions of natural fibers, in *Advanced High Strength Natural Fiber Composites in Construction*, eds: M. Fan, F. Fu, Wood head Publishing Elsevier, 23 – 59, 2016
7. B. Mazela, **C.-M. Popescu**, Solid Wood, in Ch2: Wood as bio-based building materials, in *Performance of bio-based building materials*, eds: D. Jones, C. Brischke, Wood head Publishing Elsevier, 22-39, 2017
8. **C.-M. Popescu**, D. Jones, Cellulose, pulp and paper, in Ch2: Wood as bio-based building materials, in *Performance of bio-based building materials*, eds: D. Jones, C. Brischke, Wood head Publishing Elsevier, 68-77, 2017

#### **Proceeding papers:**

1. C. Vasile, **C.–M. Popescu**, B.S. Munteanu, G. Cazacu, Structural and thermal characterization of lignins, *Proceedings of Eight European Workshop on Lignocellulosics and Pulp, Utilization of lignocellulosics and by-products of pulping*, 267–270 (2004)
2. **C.–M. Popescu**, B.S. Munteanu, M.–C. Popescu, C. Vasile, Structural differences between lignin from woody plants and from annually fibre crops evidenced by thermal and spectroscopical methods, *ILI The International Lignin Institute, Bringing Lignin Back to the Headlines Priority Research and New Approaches, The 7<sup>th</sup> ILI Forum*, 133–136 (2005)
3. **C.–M. Popescu**, V. Pohoata, C. Vasile, Gh. Singurel, UV and fluorescence spectroscopy of lignins, *Proceedings of 3<sup>rd</sup> Italian Meeting on Lignin Chemistry, Wood Derivatives and Agroindustrial Waste Valorisation*, 126–129 (2005)
4. **C.–M. Popescu**, Y. Sakata, M.–C. Popescu, Gh. Singurel, C. Vasile, Spectral and thermal characterization of the wood, *Proceedings of 3<sup>rd</sup> Italian Meeting on Lignin Chemistry, Wood Derivatives and Agroindustrial Waste Valorisation*, 108–111 (2005)
5. **C.–M. Popescu**, C. Vasile, Y. Sakata, Joint research on wood chemistry and morphology between “P. Poni” Institute of Macromolecular Chemistry Iasi and Okayama University, *Proceedings of the 5<sup>th</sup> International Conference on Global Research and Education*, 201–211 (2006)
6. **C.–M. Popescu**, C. Vasile, M.–C. Popescu, Y. Sakata, Investigations of degradation/conservation stage of wood artworks, *Products and Technologies for Conservation of Cultural and Historic Heritage*, Eds: N. Luta, I. Sandu, O. Petreus, Ed. Performantica, p. 89–104 (2006)
7. **C.–M. Popescu**, C. Vasile, Y. Sakata, Hydrothermal decomposition of some wood species, *Proceedings of Italic 4 - Science & Technology of Biomass: Advances and Challenges*, 189-192 (2007)

8. **C.-M. Popescu**, C.M. Tibirna, M.-C. Popescu, P. Ander, C. Vasile, Caracterizarea suprafetei pastelor nealbita si albita din amestec de lemn, *Zilele Facultatii de Inginerie Chimica si Protectia Mediului Editia A V-A, Materiale si procese inovative*, 86-92 (2008)
9. **C.-M. Popescu**, P.T. Larsson, P. Ander, N. Olaru, C. Vasile, Characterization of acetylated unbleached and bleached kraft pulps, *Scientific Workshop, MC9 and WGs meeting COST Action E54*, 35-41 (2010)
10. **C.-M. Popescu**, C.M. Tibirna, T. Stevanovic, P. Ander, T. Arndt, C. Vasile, Bulk characterization of refined and unrefined softwood kraft pulp fibers, *Scientific Workshop, MC9 and WGs meeting COST Action E54*, 75-81 (2010)
11. **C.-M. Popescu**, C. Vasile, Morphological and thermal study on wood decayed by *Chaetomium globosum*, *Proceeding of the 14<sup>th</sup> international symposium on cellulose chemistry and technology*, 31-34 (2010)
12. **C.-M. Popescu**, M.-C. Popescu, C. Vasile, FT-IR and 2D IR Correlation Spectroscopy, Carbon 13-CP/MAS solid state NMR and X-ray diffraction spectroscopy studies on wood decayed by *Chaetomium globosum*, *Proceeding of the 14<sup>th</sup> international symposium on cellulose chemistry and technology*, 174-179 (2010)
13. C.A.S. Hill, **C.-M. Popescu**, The interaction of moisture with wood – A discussion on the origin of sorption hysteresis and the sigmoidal nature of the sorption isotherm, *Proceedings of the 9<sup>th</sup> Meeting of the Northern European Network for Wood Science and Engineering – WSE*, 110-115 (2013)
14. **C.-M. Popescu**, M.-C. Popescu, A structural study of the white rot biodegraded lime wood coated with poly(hydroxy urethane acrylate), *Proceeding of the International Workshop Characterization of modified wood in relation to wood bonding and coating performance*, 123-129 (2013)
15. M.-C. Popescu, **C.-M. Popescu**, Spectral study of hydro-thermal treated lime wood, *Proceeding of the International Workshop Characterization of modified wood in relation to wood bonding and coating performance*, 206-212 (2013)
16. D. Ridley-Ellis, **C.-M. Popescu**, B. Keating, M.-C. Popescu, C.A.S. Hill, Stiffness changes during low temperature thermal treatment of Scots pine, assessed by acoustic NDT, *Proceeding of the Seventh European Conference on Wood Modification (ECWM7)*, 201-207 (2014)
17. C. Hill, **C.-M. Popescu**, L. Rautkari, S. Curling, G. Ormondroyd, Y. Xie, Z. Jalaludin, The role of hydroxyl groups in determining the sorption properties of modified wood, *Proceeding of the Seventh European Conference on Wood Modification (ECWM7)*, 104-111 (2014)
18. **C.-M. Popescu**, C.A.S. Hill, M.-C. Popescu, Evaluation of the Water Adsorption/Desorption Process in Chemically Modified Wood by NIR Spectroscopy, *Proceeding of the Eight European Conference on Wood Modification (ECWM8)*, 56-63 (2015)
19. M.-C. Popescu, **C.-M. Popescu**, Water sorption ability of acetylated wood assessed by mid infrared spectroscopy, *Proceeding of the International Scientific Conference Building with Bio-Based Materials: Best Practice and Performance Specification*, 119-122 (2017)
20. **C.-M. Popescu**, D. Jones, An overview of the knowledge transfer through STSMs, *Proceeding of the International Scientific Conference Building with Bio-Based Materials: Best Practice and Performance Specification*, 165-176 (2017)
21. **C.-M. Popescu**, C.A.S. Hill, D. Sun, NIR and DVS to monitor the water sorption properties of thermal and chemical treated wood material, *e-Proceedings of the 2018 World Conference on Timber Engineering (WCTE2018)*, S752, 1-6 (2018)
22. **C.-M. Popescu**, D. Kržišni, M. Hočevar, M. Humra, N. Thelar, M.-C. Popescu, D. Jones, Infrared spectroscopy and chemometric methods for the evaluation of the thermal/chemical treatment effectiveness of hardwoods, *e-Proceeding of the 9<sup>th</sup> European Conference on Wood Modification (ECWM9)*, S5, 1-9 (2018)
23. **C.-M. Popescu**, L. Rautkari, M. Altgen, T. Belt, M. Mäkelä, Raman spectral imaging of chemically modified Scots pine, *e-Proceeding of the 9<sup>th</sup> European Conference on Wood Modification (ECWM9)*, S7, 1-6 (2018)

24. D. Ridley-Ellis, **C.-M. Popescu**, Changes in longitudinal modulus of elasticity of Douglas-fir during low temperature thermal treatment, *e-Proceeding of the 9<sup>th</sup> European Conference on Wood Modification (ECWM9)*, S7, 1-6 (2018)
25. D. Jones, **C.-M. Popescu**, D. Kržišnik, M. Hočevar, M. Humar, N. Thaler, M.-C. Popescu, The use of bicine and tricine as possible Maillard reagents in a combined thermal/chemical modification of beech, *Proceedings IRG Annual Meeting, IRG/WP 19-40852*, 1-12 (2019)
26. **C.-M. Popescu**, A. Konstantinou, A. Stankiewicz, Properties and structural features of superhydrophobic scots pine wood, *Proceedings of the 15<sup>th</sup> Annual Meeting of the Northern European Network for Wood Science and Engineering – WSE2019*, 138-140 (2019)

***International symposia – conferences/keynotes/lectures:***

1. **C.-M. Popescu**, B.C. Simionescu, Micro and Non-Destructive Methods Used for Characterization of Wooden Cultural Heritage Objects, *IV<sup>th</sup> European Symposium on Religious Art, Restoration and Conservation*, Iasi, Romania, May 3-5, 2012
2. **C.-M. Popescu**, M.-C. Popescu, Two dimensional correlation spectroscopy applied for evaluation of the structural changes in wood, *International Conference Evaluation, processing and predicting of THM treated wood behaviour by experimental and numerical methods*, Iasi, Romania, April 9-11, 2013
3. M.-C. Popescu, **C.-M. Popescu**, Wood structural changes, and degradation mechanisms, evidenced by 2D IR COS, *2DCOS-7*, Seoul, Korea, August 21-24, 2013
4. **C.-M. Popescu**, M.-C. Popescu, 2D COS NIR analysis of structural changes in dry thermal and hydrothermal treated wood, *2DCOS-8*, Vienna, Austria, July 08-11, 2015
5. **C.-M. Popescu**, Hydrophobic nanocomposite formulations for organic based surfaces, *Collaborative Conference on Materials Research (CCMR)*, Goyang/Gyeonggi, South Korea, June 03-07, 2019
6. **C.-M. Popescu**, D. Ridley-Ellis, M.-C. Popescu, Quantification of chemical changes taking place in spruce wood structure following long period thermal treatment, *2DCOS-10*, Changchun, China, August 19-21, 2019

***National symposia – conferences/keynotes/lectures:***

1. **C.-M. Popescu**, Evaluarea procesului de sorbtie a apei in materialul lemnos, *Zilele Academice Iesene, Simpozionul Progrese in stiinta compusilor organici si macromoleculari*, Iasi, Romania, September 24–26, 2015

***Invited lecturer:***

2. **C.-M. Popescu**, Analytical pyrolysis and microstructure of wood samples, *Sitting of the Laboratory of Lignin Chemistry, Latvian State Institute of Wood Chemistry (IWC), Agenda: Presentation of foreign colleagues about the studies conducted jointly with IWC*, Riga, Latvia, June 14, 2005
3. **C.-M. Popescu**, Thermo-hydro-mechanical processing of hardwood, *Bern University of Applied Sciences, Architecture, Wood and Civil Engineering, BHT*, Biel/Bienne, Switzerland, May, 2011
4. **C.-M. Popescu**, Investigation Methods used for Characterization of Wooden Cultural Heritage, *Forest Products Research Institute, Edinburgh Napier University, The Royal Society of Edinburgh*, July 20, 2012
5. **C.-M. Popescu**, Two Dimensional Correlation Spectroscopy in Wood Science, *Training School - Chemical and property changes in wood during THM-treatment*, Aalto University, Helsinki, Finland, May 20-22, 2013
6. **C.-M. Popescu**, Spectroscopy in wood science, *Institute of Wood Biology and Wood Technology of the Georg-August-University of Göttingen, Göttingen, Germany*, July 15, 2016
7. **C.-M. Popescu**, Wood chemistry research & applications, conservation & collaborating in the UK, *State Forest Resources Agency of Ukraine, Kiev*, 24.01.2017 and *Ukrainian National Forestry University, Lviv, Ukraine*, January 25, 2017

### ***International symposia communications:***

1. **C.–M. Popescu**, Y. Sakata, M.–C. Popescu, C. Vasile, Spectroscopical characterization of aged wood using SAXS, WAXS and FT-IR, *3<sup>rd</sup> Meeting COST Action E41, Spectrometric techniques used for the analysis of Carbohydrates, Lignin and Extractives*, Hesperia Sant Just, Barcelona, Spain, April 25–26, 2005
2. **C.–M. Popescu**, V. Pohoata, C. Vasile, Gh. Singurel, UV and fluorescence spectroscopy of lignins, *3<sup>rd</sup> Italian Meeting on Lignin Chemistry, Wood Derivatives and Agroindustrial Waste Valorisation*, L'Aquila, Italy, June 23–24, 2005
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- 39.M.-C. Popescu, P. Gradinariu, **C.-M. Popescu**, Different spectral techniques used to identify the state of wood degradation by soft rot fungi, *Technical Workshop - Performance Testing and Testing Methodologies, COST FP1303*, Tallin, Estonia, March 04-05, 2015
- 40.**C.-M. Popescu**, C.A.S. Hill, M.-C. Popescu, Relation of moisture with wood structure through the near infrared spectroscopy and chemometric techniques, *Advances in modified and functional bio-based surfaces, Final COST FP1006 meeting*, Thessaloniki, Greece, April 07-09, 2015
- 41.M.-C. Popescu, **C.-M. Popescu**, Structure evaluation of composite materials based on CNC, *COST Action FP1105 sixth workshop*, Donostia (San Sebastian), Spain, May 26-27, 2015
- 42.M.-C. Popescu, **C.-M. Popescu**, Structure evaluation of the modified wood through different spectral techniques, *Life Cycle Assessment, EPDs and modified wood (COST FP1407 1<sup>st</sup> Conference)*, Koper, Slovenia, August 25-26, 2015
- 43.M.-C. Popescu, **C.-M. Popescu**, Design and durability of traditional wooden houses. A case study, *Designing with bio-based building materials–Challenges and opportunities*, Madrid, Spain, February 24-25, 2016
- 44.M.-C. Popescu, **C.-M. Popescu**, 2DCOS - a new tool to monitor the crystallization process, *COST Action CM1402: Crystallize Annual meeting*, Coimbra, Portugal, April 6 -8, 2016
- 45.M. Goanta, D. Timpu, **C.-M. Popescu**, B.-I. Dogaru, Synthesis and Characterization of Metal Complexes of Ni(II) and Co(II) derived from formazan, *COST Action CM1402: Crystallize Annual meeting*, Coimbra, Portugal, April 6 -8, 2016
- 46.B.-I. Dogaru, M.-C. Popescu, **C.-M. Popescu**, Analytical methods for the investigation of the water - biodegradable films interaction, *Cellulosic materials - processing, properties and promising applications*, Budapest, Hungary, September 22-23, 2016
- 47.D. Ailincăi, L. Marin, **C.-M. Popescu**, Supramolecular chitosan hydrogels via reversible imine linkage, *2nd International EPNOE Junior Scientists Meeting*, Sophia Antipolis, France, October 13-14, 2016
- 48.M.-C. Popescu, B.-I. Dogaru, **C.-M. Popescu**, Water sorption properties of bio-based composite films, *2DCOS-9*, Victoria, BC, Canada, June 07-10, 2017
- 49.M.-C. Popescu, **C.-M. Popescu**, Thermal stability of antibacterial agents based on carbosilane dendrimers, *9<sup>th</sup> International Conference on advanced vibrational spectroscopy, ICAVS-9*, Victoria, BC, Canada, June 11-16, 2017
- 50.D. Ailincăi, M.-C. Popescu, L. Marin, **C.-M. Popescu**, FTIR spectroscopy - a facile method in characterization of supramolecular architecture of the chitosan- based hydrogels, *9<sup>th</sup> International Conference on advanced vibrational spectroscopy, ICAVS-9*, Victoria, BC, Canada, June 11-16, 2017
- 51.M.-C. Popescu, **C.-M. Popescu**, Water sorption ability of acetylated wood assessed by mid infrared spectroscopy, *Building with bio-based materials: Best practice and performance specification*, Zagreb, Croatia, September 6-7, 2017
- 52.B.-I. Dogaru, **C.-M. Popescu**, D. Jones, Bio-based fiberboards: structure and properties, *IPPS (International panel products symposium) 2017*, Llandudno, UK, October 4-5, 2017

53. B.-I. Dogaru, M.-C. Popescu, **C.-M. Popescu**, Structure and sorption properties of CNC reinforced PVA films, *3rd International Conference on Nanomaterials: Fundamentals and Applications (NFA 2017)*, Strbske Pleso, Slovakia, October 9-11, 2017
54. M.-C. Popescu, B.-I. Dogaru, **C.-M. Popescu**, Evaluating the molecular interactions in nanocomposite films using PCA and 2DIR correlation spectroscopy, *3rd International Conference on Nanomaterials: Fundamentals and Applications (NFA 2017)*, Strbske Pleso, Slovakia, October 9-11, 2017
55. **C.-M. Popescu**, C.A.S. Hill, D. Sun, NIR and DVS to monitor the water sorption properties of thermal and chemical treated wood material, *2018 World Conference on Timber Engineering (WCTE2018)*, Seoul, Republic of Korea, August 20-23 (2018)
56. M.-C. Popescu, B.-I. Dogaru, **C.-M. Popescu**, Structural evaluation of polysaccharide seed coating agents, *The 10<sup>th</sup> International Conference of Modification, Degradation and Stabilization of Polymers (MoDeSt2018)*, Tokyo, Japan, September 2-6 (2018)
57. **C.-M. Popescu**, L. Rautkari, M. Altgen, T. Belt, M. Mäkelä, Raman spectral imaging of chemically modified Scots pine, *9<sup>th</sup> European Conference on Wood Modification (ECWM9)*, Arnhem, The Netherlands, September 17-18, 2018
58. D. Ridley-Ellis, **C.-M. Popescu**, Changes in longitudinal modulus of elasticity of Douglas-fir during low temperature thermal treatment, *9<sup>th</sup> European Conference on Wood Modification (ECWM9)*, Arnhem, The Netherlands, September 17-18, 2018

#### **Posters in national symposia:**

1. D. Filip, **C.-M. Popescu**, M.-C. Popescu, C. Vasile, D. Macocinschi, Gh. Singurel, Temperature dependence of the IR spectra of some polymer blends, *Scientific session of Al. I. Cuza University, Fundamental research and applications in the physics domain*, Iasi, Romania, October 26, 2002
2. L. Nita, N. Tudorache, A. Chiriac, **C.-M. Popescu**, M. Pascu, C. Vasile, The binding possibility of procaine to a biodegradable macrostructure, *National Phytotherapy Conference*, Iasi, Romania, May 08-09, 2003
3. **C.-M. Popescu**, M.-C. Popescu, D. Filip, C. Vasile, D. Macocinschi, Gh. Singurel, Thermal study of some polymer blends and low molecular weight liquid crystals, *The XXXI<sup>th</sup> National Conference Physics and Modern Educational Technologies*, Iasi, Romania, May 25, 2003
4. G. Cazacu, **C.-M. Popescu**, V.I. Popa, Gh. Singurel, C. Vasile, FT-IR spectroscopy for lignins characterisation, *Third Conference Isotopic and Molecular Processes*, Cluj-Napoca, Romania, September 25 – 27, 2003
5. **C.-M. Popescu**, V.I. Popa, Gh. Singurel, G. Cazacu, C. Vasile, Thermo-oxidative behaviour of lignins, *Workshop on Fundamental and Applied Research in Physics*, Iasi, Romania, November 1, 2003
6. **C.-M. Popescu**, M.-C. Popescu, V.I. Popa, Gh. Singurel, C. Vasile, FT-IR spectroscopy and thermogravimetry for lignins characterisation, *Physics Conference TIM – 03*, Timisoara, Romania, November 28–29, 2003
7. L.E. Nita, **C.-M. Popescu**, A.P. Chiriac, C. Vasile, Drugs release profile from the systems based on polyvinyl matrix by UV characterisation, *Physics Conference TIM–03*, Timisoara, Romania, November 28–29, 2003
8. **C.-M. Popescu**, C. Vasile, Thermal characterisation of biodegraded wood by *Trichoderma viride* Pers., *Iasi Academic Days (ZAI)*, Iasi, Romania, September 26–29, 2007
9. **C.-M. Popescu**, C. Vasile, B.C. Simionescu, IR and 2D IR correlation spectroscopy for analysis of natural resins used as protection vernis, *Iasi Academic Days (ZAI)*, Iasi, Romania, September 29 – October 01, 2011

#### **National and international projects:**

1. Project CNCSIS 925 / 2003 – 2005, *A new material class from renewable resources, Compounds testing – natural / synthetics polymers*, Research Program of Ministry of Education and Research from Romania, **C.-M. Popescu** member
2. *Romanian Action for Integrating Networking and Strengthening the European Research Area, (RAINS)/2005-2008*, project coordinator: Bogdan C. Simionescu, **C.-M. Popescu** PhD student (2006-2008)

3. Project MATNANTECH, CEEX/2006-2008, *Lignin – Source of raw materials for non-conventional fuels, energy, chemical products and performed materials in durable development conditions*, **C.-M. Popescu** member
4. Project CNCSIS 76TD 2007-2008, *Study of the ageing behaviour of the wood and acrylic polymers used in art works making and restoration*, Research Program of Ministry of Education and Research from Romania, **C.-M. Popescu** - project leader.
5. Project EUREKA E!4952, 2010-2013, *New Technologies for obtaining of bioactive packaging (BIOPACKAGING)*, project coordinator University Maribor Slovenia, **C.-M. Popescu** – member
6. Project PN-II-RU-TE-2014-4-1828 – INOBIOPACK, 2015-2017, *Inovative eco-friendly antimicrobial bio nanomaterials for food and medicine packaging*, **C.-M. Popescu** – member
7. Project PN-II-RU-TE-2014-4-2314 – Dynagels, 2015-2017, *Multifunctional dynamic hydrogels with tuned morphology for biomedical applications*, **C.-M. Popescu** – member
8. Project M-era.NET – COMPIO, 2017-2020, *Eco-friendly nanoclay, nanocellulose and MIP composites for microbial formulations*, **C.-M. Popescu** – member
9. PN-III-P1-1.2-PCCDI-2017-0569, 2018-2020, *Closing the bioeconomy value chains by manufacturing market demanded innovative bioproduct*, **C.-M. Popescu** – member
10. Project N5106, 2019-2020, *Novel Hydrophobic Protective Coatings for Wood-based Products*, A. Stankiewicz, **C.-M. Popescu**
11. PN-III-P1-1.1-TE-2019-1375, 2020-2022, *Sustainable high performance coating nano-materials for bio-based substrates*, **C.-M. Popescu** – project leader

#### ***COST Actions:***

1. *E41/2004-2008*, Analytical tools with applications for wood and pulping chemistry, *WG member*
2. *E54/2007-2011*, Characterisation of the fine structure and properties of papermaking fibres using new technologies, *WG member*
3. *FP0602/2007-2011*, Biotechnology for Lignocellulose Biorefineries (BIOBIO), *WG member*
4. *FP0802/2008-2012*, Experimental and Computational Micro-Characterization Techniques in Wood Mechanics, *MC substitute and WG member*
5. *FP0901/2009-2013*, Analytical Techniques for Biorefineries, *WG member*
6. *TD0802/2009-2013*, Synthesis and Characterization of Dendrimers in Biomedical Applications, *WG member*
7. *FP0904/2010-2014*, Thermo-Hydro-Mechanical Wood Behaviour and Processing, *WG member*
8. *FP1006/2011-2015*, Bringing new functions to wood through surface modification, *MC substitute and WG member*
9. *FP1105/2012-2016*, Understanding wood cell wall structure, biopolymer interaction and composition: implications for current products and new material innovation, *MC substitute and WG member*
10. *FP1205/2013-2017*, Innovative applications of regenerated wood cellulose fibres, *MC and WG member*
11. *FP1302/2013-2017*, WOOD MUSICK, *STSM co-officer, SC, MC and WG member*
12. *FP1303/2013-2017*, Performance of bio-based building materials, *STSM officer, SC, MC and WG member*
13. *CM1402/2014-2018*, From molecules to crystals - how do organic molecules form crystals? (Crystallize), *MC substitute and WG member*
14. *TN1301/2013-2017*, Next Generation of Young Scientist: Towards a Contemporary Spirit of R&I - SCIENCE GENERATION, *MC member*
15. *FP1404/ 2015-2019*, Fire Safe Use of Bio-Based Building Products, *MC and WG member*
16. *FP1407/ 2015-2019*, Understanding wood modification through an integrated scientific and environmental impact approach (ModWoodLife), *MC and WG member*