

## PUBLICATIONS

### Dr. ing. (PhD) Thesis

Chinga-Carrasco, G.: "Structural studies of LWC paper coating layers using SEM and image analysis techniques". PhD thesis 2002:14, Inst. for chemical engineering, NTNU (February 2002, 108 p). ISBN 82-471-5406-4 / ISSN 0809-103X

### Cand. scient. (MSc) Thesis

Chinga-Carrasco, G.: "Three-dimensional reconstruction of plant cells exposed to different gravity conditions", 112 p., 1997

### Book chapter contribution

6. Magnus B. Lilledahl, Gary Chinga-Carrasco, and Catharina de Lange Davies (2013): "Three-dimensional visualization and quantification of structural fibres for biomedical applications" Confocal Laser Microscopy", ISBN 980-953-307-966-5.

5. Chinga-Carrasco, G. (2012): "Complementary microscopy techniques for surface characterisation of uncoated and mineral pigment coated paper ". In: Current Microscopy Contributions to Advances in Science and Technology A. Méndez-Vilas and J. Díaz (Eds.).

4. Chinga-Carrasco, G., Miettinen, A., Luengo Hendriks, C.L., Gamstedt, E.K. and Kataja, M. (2011): "Structural characterisation of kraft pulp fibres and their nanofibrillated materials for biodegradable composite applications". In: Nano composites and Polymers with Analytical Methods - Book 3, ISBN 979-953-307-136-6.

3. Lenes, M., Chinga-Carrasco, G. and Gregersen, Ø. (2011): "Performance properties and micro-structural quantification of fibre-polypropylene composites". In: *Fiber Reinforced Composites*. Ed: Quingzheng (George) Cheng. West Virginia University, Morgantown, WV, USA.

2. Chinga-Carrasco, G. and Syverud, K. (2011): "Cellulose nanofibrils – Production, characterisation and applications". In: *Characterisation of the fine structure and properties of papermaking fibres using new technologies*.

1. Chinga-Carrasco, G. (2010): "Microscopy and computerized image analysis of wood pulp fibres multiscale structures". In: *Microscopy: Science, Technology, Applications and Education A*. Méndez-Vilas and J. Díaz (Eds.).

## JOURNAL PUBLICATIONS

82. Filgueira, D., Holmen, Sl., Melbø, J.K., Moldes, D., Echtermeyer, A.T., Chinga-Carrasco, G. 2017. Enzymatic-assisted modification of TMP fibres for improving the interfacial adhesion with PLA for 3D printing. *ACS Sustainable Chem. Eng.*, 2017, 5 (10), pp 9338–9346.

81. Brodin, M., María Vallejos, M., Opedal, M.T., Area, M.C., Chinga-Carrasco, G. 2017. Lignocellulosics as sustainable resources for production of bioplastics – a review. *Journal of Cleaner Production* 162, 646-664

80. Ottesen, V., Kumar, V., Toivakka, M., Chinga-Carrasco, G., Syverud, K., Gregersen, Øyvind W., 2017. Viability and properties of roll-to-roll coating of cellulose nanofibrils on recycled paperboard. *Nordic Pulp & Paper Research Journal*. vol. 32 (2).

79. Sun, F., Nordli, H.R., Pukstad, B., Gamstedt, E.K., Chinga-Carrasco, G., 2017. Mechanical characteristics of nanocellulose-PEG bionanocomposite wound dressings

in wet conditions. *Journal of the Mechanical Behavior of Biomedical Materials* 69, Pages 377–384.

78. Valdebenito, F., Pereira, M., Ciudad, G., Azocar, L., Briones, R., Chinga-Carrasco, G., 2017. On the nanofibrillation of corn husks and oat hulls fibres. *Industrial Crops and Products* 95, 528–534.

77. Jack, A.J., Nordli, H.R., Powell, L.C., Powell, K.A., Kishnani, H., Johnsen, P.O., Pukstad, B., Thomas, D.W., Chinga-Carrasco, G., Hill, K.E. (2017). The Interaction of Wood Nanocellulose Dressings and the Wound Pathogen *P. aeruginosa*. *Carbohydrate Polymers* 157, 1955–1962.

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71. Powell, L.C., Khana, S., Chinga-Carrasco, G., Wright, C.J., Hill, K.E., Thomas, D.W. (2016). An investigation of *Pseudomonas aeruginosa* biofilm growth on novel nanocellulose fiber dressings. *Carbohydrate polymers*, 137 (10): 191-197.

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## CONFERENCES

64. Gary Chinga-Carrasco. Nanocellulose: Engineering and bio-applications. Expoquimia – Chemistry for the future, Barcelona. October 2-6, 2017. Invited talk
63. Daniel Filgueira, Gary Chinga-Carrasco, Diego Moldes. Laccase-assisted Hydrophobization of films made from lignocellulosic nanofibres. 10th World Congress of Chemical Engineering, Barcelona. October 1-6, 2017.
62. Quim Tarrés, Johnny K. Melbø, Marc Delgado Aguilar, F.X. Espinach, Fernando Julian, Pere Mutjé, Gary Chinga-Carrasco. Lignomicro/nanocellulose production from thermomechanical pulp by enzymatic hydrolysis. 10th World Congress of Chemical Engineering, Barcelona. October 1-6, 2017
61. Quim Tarrés, Johnny K. Melbø, Marc Delgado Aguilar, F.X. Espinach, Fernando Julian, Pere Mutjé, Gary Chinga-Carrasco. Analysis of the mechanical properties of

PLA biocomposites containing softwood thermomechanical pulp fibers. 10th World Congress of Chemical Engineering, Barcelona. October 1-6, 2017. F.

**60.** Chinga-Carrasco, G. (2017). Nanocellulose-based biocomposites for 3D bioprinting of wound dressing structures. Energy, Materials, Nanotechnology (EMN) Europe Meetings. "Hydrogels materials" Amsterdam (2017).

**59.** Chinga-Carrasco, G. (2017). Wood nanocellulose – a natural component for novel biocomposite wound dressings“. Innovations in Wound Healing and Wound Management: 31st Jan – 2nd Feb 2017, UK.

**58.** Chinga-Carrasco, G., Solheim, O., Melbø, J.K., Brodin, M. (2016). Cellulose fibres and nanocellulose – components for FDM filaments and hydrogels for 3D printing. IX Iberoamerican Congress on Pulp and Paper Research Under the theme "Building bridges in research and innovation for the sustainable bioeconomy". September 4-8, Espoo, Finland.

**57.** Xu, C., Liu, J., Wang, X., Cheng, F., Chinga-Carrasco, G., Syverud, K., Willför, S. (2016). Nanocellulose-based scaffolds with tunable structures to support 3D cell culture. International Conference on Nanotechnology 2016. 13-16 June in Grenoble, France.

**56.** Rusu, C.L., Brodin, M., Lein, H.L., Einarsrud, M.-A., Chinga-Carrasco, G. (2016). The potential of ceramic particles in coatings with improved scratch and wear resistance. 5th World Congress on Materials Science & Engineering, June 13-15, Spain.

**55.** Chinga-Carrasco, G. (2015). Kraft pulps from Eucalyptus and Pinus radiata - raw materials for nanocellulose production and novel bio-applications. International Symposium on Lignocellulosic Materials, November 23-25, Concepcion, Chile. Invited Keynote.

**54.** Syverud, K., Heggset, E.B., Chinga-Carrasco, G. (2015). Temperature stability of nanocellulose dispersions. EPNOE - International polysaccharide conference. 19-22 October. Wasaw, Poland.

**53.** Tehrani, Z., Nordli, H.R., Chinga-Carrasco, G., Pukstad, B., and Gethin, D.T. (2015) Investigation of Effect of Poly Ethylene Glycol as a Plasticizer for the Manufacture of Nanocellulose Films. EPNOE - International polysaccharide conference. 19-22 October. Wasaw, Poland.

**52.** Jack, A., Nordli, H.R., Powell, L.C., Chinga-Carrasco, G., Hill, K.E., Pukstad, B. and Thomas, D.W. (2015). Characterisation of interactions between a novel nanocellulose wound dressing and the wound pathogens Staphylococcus aureus and Pseudomonas aeruginosa. European Tissue Repair Society (ETRS) Annual Congress, 21-23 October. Copenhagen, Denmark.

**51.** Chinga-Carrasco, G. (2015). Biobased materials - facing industrial and societal needs with multidisciplinary approaches. International Workshop on Biorefinery of Lignocellulosic Materials, 9-12 June C—rdoba, Spain - Invited Keynote.

**50.** Brodin, M., Johnsen, P.O., Hindersland, L.K. and Chinga-Carrasco, G. (2015). The biocomposite structure of decorative laminates. 10th International Conference on Composite Science and Technology, 2-4 September, Lisboa, Portugal.

**49.** Brodin, M., Johnsen, P.O., Hindersland, L.K. and Chinga-Carrasco, G. (2015). Decorative laminates Ð Wood fibre based biocomposites. Biocomposites in Construction, 21-22 May, London, UK.

**48.** Nordli, H.R., Rokstad, A.M., Chinga-Carrasco, G. and Pukstad, B. (2015). TEMPO-pretreated wood nanocellulose for wound dressings. BioNanoMed Conference- Nanomaterials for Biomedical Applications, April 8 Ð 10, Graz, Austria

47. Chinga-Carrasco, G. (2015). Micro- and nanofibres from wood pulp – new industrial perspectives. ImagineNano, Industrial forum - Nanocellulose and Paper Industry. 10-13 March, Bilbao, Spain. Invited.
46. Syverud, K., Chinga-Carrasco, G., Pettersen, S., Draget, K. (2015). Controlling the elastic modulus of cellulose nanofibril hydrogels and scaffolds with potential in tissue engineering. 249th ACS National Meeting & Exposition. 22-26 March, Denver, CO.
45. Chinga-Carrasco, G. (2015). Nanocellulose-based biocomposites for wound healing applications. International Conference on Natural Fibres - From Nature to Market. 27-29 April, Azores, Portugal. - Invited
44. Chinga-Carrasco, G. (2014). Advanced biomaterials based on nanofibrillated cellulose – from nanopapers to nanomedicine. Invited keynote – VIII Iberoamerican congress on pulp and paper research. 26-28 November 2014, Medellín, Colombia.
43. Chinga-Carrasco, G., Powell, L.C., Khan, S., Hill, K.E., Thomas, D.W. Wood nanocellulose – Characterization and potential application as barrier against wound bacteria. 18th International Microscopy Congress - Materials for medicine and biomaterials, 7-12 September 2014, Prague, Czech Republic.
42. Stepien, M., Chinga-Carrasco, G., Saarinen, J.J., Teisala, H., Tuominen, M., Haapanen, J., Kuusipalo, J., Mäkelä, J.M., and Toivakka, M. (2014). Abrasion and Compression Resistance of Liquid-Flame-Spray-Deposited Functional Nanoparticle Coatings on Paper. 13th Tappi Advanced Coating Fundamental Symposium. October 7-9, Minneapolis, USA.
41. Rees, A., Powell, L.C., Chinga-Carrasco, G., Gethin, D.T., Claypole, T.C., Deganello, D., Syverud, K., Hill, K.E., Thomas, D.W. (2014). Studies on the 3D Printing of Nanocellulose Structures. 41st International IARIGAI Conference, 7th-10th September 2014, Swansea, UK
40. Chinga-Carrasco, G., Brodin, M., Johnsen, P.O. and Karlsen, T. (2014). Wood pulp fibres and nanocellulose – Characterization and application in biocomposite materials. 22nd, Int. Conference on composites or nano engineering, 13-19 July 2014, Malta.
39. Nordli, H.R., Rokstad, A.M., Chinga-Carrasco, G. and Pukstad, B. (2014). Immunogenic properties of TEMPO-treated wood nanocellulose. BioNanoMed Conference- Nanomaterials for Biomedical Applications, March 26 – 28, Krems, Austria.
38. Chinga-Carrasco, G., Powell, L.C., Nordli, H.R., Khan, S., Hill, K.E., Syverud, K., Thomas, D.W., Pukstad, B. (2014): "Nanocellulose from wood as a biomaterial for biomedical applications". Invited talk, ISN2A 2014 – International symposium on Nanoparticles/Nanomaterials and applications, January 20-22, Lisbon, Portugal.
37. Powell, L.C., Khan, S., Syverud, K., Chinga-Carrasco, G., Onsøyen, E., Rye, P.D., Hill, K.E., Thomas, D.W. (2013): "Towards the management of wound infections with dressings manufactured from nanocellulose derived from *Pinus radiata* wood pulp" 23rd European Tissue Repair Society Meeting. Stem cells and regenerative medicine. 23-25 October. Reims, France.
36. Syverud, K., Pettersen, S., Draget, K., Chinga-Carrasco, G. (2013). Controlling the elastic modulus of nano-engineered hydrogels by crosslinking cellulose nanofibrils". EPNOE 2013: "Polysaccharides and polysaccharide-derived products, from basic science to applications. 21st -24th October. Nice, France.
35. Stepien, M., Chinga-Carrasco, G., Saarinen, J.J., Teisala, H., Tuominen, M., Aromaa, M., Haapanen, J., Kuusipalo, J., Mäkelä, M., and Toivakka, M. (2013). Wear resistance of nanoparticle coatings on paperboard. Tappi international conference on



Nanotechnology for Renewable Materials. KTH Royal Institute of Technology. 24th-27th June. Stockholm, Sweden (2013).

**34.** Syverud, K., Alexandrescu, L., Gatti, A., Chinga-Carrasco, G. and Besoli, F.: "Verifying the biocompatibility of cellulose nanofibril structures as a first step to develop filters for air-borne nano-particles. Tappi international conference on Nanotechnology for Renewable Materials. KTH Royal Institute of Technology. 24th-27th June. Stockholm, Sweden (2013).

**33.** Chinga-Carrasco, G., Kirsebom, H., Syverud, K.: "Designing Nanocellulose Qualities for wound Dressings". 4<sup>th</sup> International Congress, Nanotechnology, Medicine and Biology, March 13-15, Krems/Austria (2013).

**32.** Hii, C., Gregersen, Ø.W., Chinga-Carrasco, G. and Eriksen, Ø.: "The effect of microfibrillated cellulose on the pressability of TMP and filler mixtures and on paper properties". International Paper Physics Conference, June 10-14, Stockholm (2012).

**31.** Mikczinski, M., Josefsson, G., Chinga-Carrasco, G., Syverud, K., Gamstedt, E.K. and Fatikow, S.: "Introducing an in-situ microrobotic approach for assessing the stiffness properties of microfibrillated cellulose films". International Paper Physics Conference, June 10-14, Stockholm (2012).

**30.** Alexandrescu, L., Syverud, K., Chinga-Carrasco, G., Iotti, M., Gregersen, Ø., Belosic, F. and Gatti, A.M.: "Air filtration of nano-particles using cellulose nanofibrils". International Conference NanotechItaly 2011, NH Laguna Palace Convention Center in Venice-Mestre, 23rd to 25th of November 2011.

**29.** Hii, C., Gregersen, Ø., Chinga-Carrasco, G., Eriksen, Ø, Toven, K., Rosén, F. and Vomhoff, H.: "Quantification of the Web Structure in Relation to Process Conditions During Wet Pressing and Furnish Composition". Progress in Paper Physics Seminar. Graz, Austria. Sept. 5-8, (2011).

**28.** Chinga-Carrasco, G., Syverud, K.: "On the porosity and oxygen barrier properties of cellulose nanofibril-based films". Annual meeting of IAWS 2011. Novel materials from wood or cellulose, Stockholm, August 31-Sept. 2, (2011).

**27.** Rättö, P., Blohm, E. and Chinga-Carrasco, G.: "Film splitting during offset printing - the influence of paper surface properties on film splitting geometry". 38<sup>th</sup> International Research Conference of iargai. Budapest, September 11-14, 2011.

**26.** Syverud, K., Chinga-Carrasco, G., Salvatori, R. and Gatti, A.: "Towards novel filter concepts for nanopollution". 241<sup>st</sup> American Chemical Society National Meeting and Exposition, Anaheim, California, Division of Cellulose and Renewable Materials, March 27-31, 2011.

**25.** Yamakawa, A., Chinga-Carrasco, G.: "Updating the Shape descriptor plugin for automatic classification of TMP fibre cross-sections". Oral presentation at the 3<sup>rd</sup> ImageJ – User and Developer Conference, Luxembourg 27-29 October, 2010.

**24.** Chinga-Carrasco, G. and Yu, Y.: "Quantitative microscopy of cellulose fibres and nanofibrils" Oral Presentation, International Microscopy Congress. Rio De Janeiro September (2010).

**23.** Syverud, K., Marstokk, O., Stenstad, P. and Chinga-Carrasco, G.: "The potential of cellulose nanofibrils for stabilizing commercial paints", Tappi 2010 international conference on Nanotechnology for the forest product industry, Espoo, 27-29 Sept 2010.

**22.** Xhanari, K., Paso, K., Chinga-Carrasco, G., Syverud, K. and Stenius, P.: "Structure of nanofibrillated cellulose monolayers at the oil/water interface", Tappi 2010 international conference on Nanotechnology for the forest product industry, Espoo, 27-29 Sept 2010.

21. Yamakawa, A., Chinga-Carrasco, G.: "Classification of wood fibre cross-sectional shapes", 5th International conference on Hybrid Artificial Intelligence Systems, San Sebastian Spain, June 23-25, 2010.
20. Syverud, K., Chinga-Carrasco, G., Toledo, J. & Toledo, P: "Cellulose nanofibrils production: A comparison of hardwood and softwood never-dried kraft pulp fibres" Oral presentation in CELL symposia at the American Chemical Society, Cellulose and Renewable Materials Division - Session Micro and Nanofibers from Sustainable Materials. San Francisco, USA (2010).
19. Chinga-Carrasco, G., Syverud, Toledo, J., Toledo, P., K., Øyaas, K. & Gregersen, Ø.: "A survey of Chilean natural resources - focus on novel materials and bio-energy solutions". First NorLARNet conference. Oslo, November 12-13 (2009).
18. Syverud, K., Chinga-Carrasco, G. & Stenius, P: "Preparation, characterization and modification of nano-sized cellulose fibrils". 15th Int. Symposium on Wood, Fibre and Pulping Chemistry - ISWFPC, Oslo June 15 - 18 (2009).
17. Preston, J., Toivakka, M., Heard, P. & Chinga-Carrasco, G.: "Coated Paper Microstructure: Particle shape - Microstructure Interrelations. PaperCon , Renaissance St. Louis, 800 Washington Ave., St. Louis, MO 63101, USA. (2009).
16. Syverud, K., Gregersen, Ø., Chinga-Carrasco, G. & Eriksen, Ø.: "The influence of nano-sized fibrillar cellulose on paper strength and surface properties" Oral presentation in the 14th Fundamental Research Symposium, to be held at St. Anne's College, Oxford, UK between 14 and 18 September (2009).
15. Syverud, K., Chinga-Carrasco, G. & Stenius, P: "On the tensile characteristics of model films and membranes with different MFC loadings" Oral presentation in CELL symposia at the American Chemical Society, National Meetings Cellulose and Renewable Materials Division Salt Lake City (2009).
14. Dickson, A. and Chinga, G.: "Analysing the relationship between ink coverage and variations in sheet grammage and topography", Oral presentation in 62nd Appita annual conference and exhibition, Rotorua New Zealand, April 20-23 (2008).
13. Mettänen, M and Chinga, G.: "Surface reconstruction methods for the characterization of paper topography". COST E32 Action - Characterization of Paper Surfaces for Improved Printing Paper Grades: Paper in Printing Processes Seminar. Grenoble, France, Oct. 4-5 (2007).
12. Chinga, G., Johnsen, P.O., Kauko, H., Myllys, M. and Timonen, J.: "On the three-dimensionality of glossy surfaces". PTS coating symposium, Baden-Baden, Germany (2007).
11. Chinga, G. and Syverud, K.: "Simultaneous quantification of paper mass distribution and print details". International Paper Physics Conference, Broadbeach, Australia (2007).
10. Chinga, G. and Syverud, K.: "Explaining picking tendency by local formation analysis". International Paper Physics Conference, Broadbeach, Australia (2007).
9. Mörseburg, K. and Chinga, G.: "Tailoring printing paper properties - Potential and weaknesses of mechanical pulp in multilayered sheets", International Mechanical Pulp Conference, USA (2007).
8. Chinga, G. and Dougherty, R.: "Quantification of surfaces structures". First ImageJ Conference, Luxembourg, May (2006).
7. Antoine, C. and Chinga, G., "Wavelet analysis of paper surface structure", Progress in Paper Physics Seminar, Trondheim, Norway (2004).
6. Holmstad, R., Gregersen, Ø. and Chinga, G. "A method for the evaluation of the true density distribution in the Z-direction of paper", Progress in Paper Physics Seminar, Finger Lakes/Sycurase, New York, September 8-13, pp 43-47 (2002)

5. Chinga, G., Helle, T. and Johnsen, P.O.: "Characterization of pigment coating layer structure using SEM and Digital Image Analysis techniques". Proceedings, 2000 Tappi Coating Conference and Trade Fair, Washington, DC, USA, 1-4 May, pp 309-316 (2000)
4. Chinga, G., Helle, T. and Johnsen, P.O.: "Pigment coating structure details, its relationship to coating processes and effect on printing ink absorption". Proceedings, PAPTAC 86th Annual meeting, Montreal, Que, Canada, 1-3 Feb., pp A119-A124 (2000)
3. Chinga, G. and Helle, T.: "Variations of LWC paper surfaces and their implications for the printing ink behaviour". Proceedings, COST Workshop Action E-11 "Characterisation methods for fibres and paper", Grenoble, France, November 30th – December 1st (2000)
2. Holmstad, R. and Chinga, G.: "Cross-sectional image analysis of paper structure as a step towards three-dimensional structural analysis". Proceedings, COST Workshop Action E-11 "Characterisation methods for fibres and paper", Grenoble, November 2000.
1. Iversen T-H., Johnsson, A., Skagen, E.B., Beisvåg, T., Chinga, G., Andreassen, P., Kittang, A.I., Wold A.B., Kristensen, A. & Rasmussen O S, Immobilized protoplasts under microgravity conditions. Preliminary results from the S/MM-03 mission, Proc. 6th Europ. Symp. Life Sci. in Space, ESA SP -390, 29-36. 1997

## **WORKSHOPS, SEMINARS, SCIENTIFICS MEETINGS**

19. Josefsson, G., Gamstedt, E. K., Berthold, F. and Chinga-Carrasco, G. "Bio-based composites of polylactic acid reinforced with nanofibrillated cellulose, nanowhiskers and microcrystalline cellulose: Estimation of the elastic properties of the fillers from the elastic properties of the composites" COST FP0802: "Micro Characterisation of Wood Material & Properties". Workshop Programme, 24<sup>th</sup> - 26<sup>th</sup> October, Edinburgh, Scotland (2012).
18. Mikczinski, M., Chinga-Carrasco, G. and Fatikow, S. "Engineering challenges for the next steps towards single fibril testing". COST FP0802: "Micro Characterisation of Wood Material & Properties". Workshop Programme, 24<sup>th</sup> - 26<sup>th</sup> October, Edinburgh, Scotland (2012).
17. Chinga-Carrasco, G. "Potensielle cellulosebaserte materialer for effektiv sårheling". Treforedlingsforum, November 20. – 21, Oslo/Norway (2012).
16. Chinga-Carrasco, G. "Characterization of the fibrillation degree of various MFC materials and its implication on critical properties". Recent advances in cellulose nanotechnology research seminar. November 14-15, Trondheim/Norway (2012).
15. Chinga-Carrasco, G.: "Moderne høyoppløsnings-karakterisering av cellulosebaserte materialer". Treforedlingsforum, Oslo, Norway, November 29-30, 2011.
14. Chinga-Carrasco, G.: "Structural characteristics of Eucalyptus and Pinus Radiata pulp fibres and their corresponding nanofibrillated materials". Presentation at the Recent advances in Cellulose nanotechnology research seminar. Trondheim, November 16-17, 2010.
13. Chinga-Carrasco, G. and Syverud, K.: "Micro- and nanostructures of cellulose-based materials". Oral presentation at the Transpore symposium – "From microscopy to modeling", PSI Villagen, Switzerland, August 19-20, 2010.
12. Chinga-Carrasco, G.: "Micro- and nanostructures of wood pulp fibres". Oral presentation at the COST E54 9th scientific workshop - Characterisation of the fine

structures and properties of papermaking fibers using new technologies. May 10-12, Coimbra, Portugal (2010).

11. Øyaas, K., Syverud, K. & Chinga-Carrasco, G.: "The effect of enzymatic modification on the surface nano-structure of wood fibres" Oral presentation in The 2nd Annual Workshop of COST FP0602 Enzymatic fiber modification and hydrolysis December 4-5, Biel, Switzerland (2008).

10. Chinga-Carrasco, G.: "Nano-characterisation of cellulose-based materials" PFI research seminar- Oral presentation in PFI Research Seminar: "Recent advances in fibrillar nanocellulose research – Characterisation and applications". PFI, Norway, November 12-13 (2008).

9. Chinga-Carrasco, G.: "Assessment of coldset print quality - Structure-property relationships", Oral presentation in the STFI research seminar, September 30 (2008).

8. Syverud, K. & Chinga-Carrasco, G.: "Structural characterization of nanocellulose films – from macro to nano". Oral presentation in the E50 workshop – Characterization and Applications of cell walls macromolecules. Dübendorf, Switzerland, October 27-29 (2008).

7. Chinga-Carrasco, G.: "Modern methods for characterisation of fibres, paper and prints - from desktop scanners to x-ray microtomography", Oral presentation in the PFI seminar, June 5 (2008).

6. Chinga, G.: "Microscopy studies of fibre and paper structures". Presentation in Avancell seminar, Gothenburg, Sweden, November 29 (2007)

5. Chinga, G.: "ImageJ as a tool for the quantification of paper and print defects". Mikroskopiklubben, Espoo, Finland, Oct. 4-5 (2007) .

4. Chinga, G., : "Surface structure characterization for mottling assessment on coated papers", Paper/Ink Properties and their Relation to Offset Printability, Symposium COST E32 Action: Characterization of Paper Surfaces for Improved Printing Paper Grades, October 6-7, Madrid (2005)

3. Gregersen, Ø., Eriksen, Ø. and Chinga, G., :Ink distribution and surface roughening in cold- and heatset printed surfaces", Paper/Ink Properties and their Relation to Offset Printability, Symposium COST E32 Action: Characterization of Paper Surfaces for Improved Printing Paper Grades, October 6-7, Madrid (2005)

2. Chinga, G., "Structural characterisation of coating layers", New concepts in paper surface treatment seminar, Stockholm, October (2004).

1. Chinga, G., "Comparison of optical devices for assessing paper surface structure", COST Action E32: Characterization of paper surfaces for improved paper grades, 2nd Working group meeting, June 18, Trondheim, Norway (2004).

## POSTERS

14. Valdebenito, G. Ciudad, G. Chinga-Carrasco. Corn husks – sustainable resource for production of cellulose nanofibrils. 10th World Congress of Chemical Engineering, Barcelona. October 1-6, 2017.

13. Santos, S.M., Carbajo, J.M., Gomez, N., Quintanaa, E., Ladero, M., Sanchez, A., Chinga-Carrasco, G., Villar, J.C. (2015). Use of bacterial cellulose in degraded paper restoration. Application on model papers. International Workshop on Biorefinery of Lignocellulosic Materials, 9-12 June Cordoba, Spain.

12. Powell, L.C., Khan, S., Chinga-Carrasco, G., Syverud, K., Hill, K.E., Thomas, D.W. (2014). Comparison of *Pseudomonas aeruginosa* biofilm growth on nanocellulose fibre structures derived from softwood pulp and a commercial

hydrofiber wound dressing. European Tissue Repair Society (ETRS) Annual Congress, 10-12 September. Edinburgh, UK.

11. Heggset, E.B., Pettersen, S.R., Draget, K.I., Chinga-Carrasco, G. and Syverud, K. (2014). Controlling mechanical and viscoelastic properties of hydrogels by crosslinking cellulose nanofibrils. 9th International Conference on Nanotechnology for Renewable Materials 23-26 June 2014 in Vancouver, BC, Canada.

10. Chinga-Carrasco, G., Kirsebom, H., Syverud, K. "The potential of cellulose nanofibrils from wood pulp fibres as a substrate for wound healing applications. 45th ABTCP conference, Oct. 9-11, Sao Paulo, Brazil (2012).

9. Syverud, K., Alexandrescu, L., Gatti, A., Chinga-Carrasco, G. "Biocompatibility studies of nanofibril structures based on Eucalyptus and Pinus radiata pulp fibres" 3rd International Cellulose Conference (ICC 2012), Oct. 10-12, Sapporo, Japan (2012).

8. M. Stepien<sup>a</sup>, G. Chinga-Carrasco<sup>b</sup>, J. J. Saarinen<sup>a</sup>, H. Teisala<sup>c</sup>, M. Tuominen<sup>c</sup>, M. Aromaa<sup>d</sup>, J. Kuusipalo<sup>c</sup>, J. M. Mäkelä<sup>d</sup>, M. Toivakka<sup>a</sup>, Y.D. Yu<sup>e</sup>, J. Hjelen<sup>e</sup>: "Structure characterization of SiO<sub>2</sub> and TiO<sub>2</sub> nanocoated paperboard". The 15th European Microscopy Congress, Manchester Central, United Kingdom, 16th - 21st September (2012).

7. Gary Chinga-Carrasco<sup>a</sup>, Ingvild Johnsen<sup>a</sup> and Karin Øyaas<sup>a</sup>: "Advanced depicting techniques and analysis tools for characterization and quantification of biomass structures". 4th Nordic Wood Biorefinery Conference in Helsinki, October 23-25, (2012).

6. Larsen, Å, Tanem, B.S., Lenes, M., Chinga-Carrasco, G., Solheim, O., Banke, K., Berthold, F.: "PLA-wood fibre composites" SustainComp final conference, Stockholm, Sweden, 14-15 June (2012).

5. Eriksen, Ø, Aasarød, K., Chinga-Carrasco, G. and Gregersen, Ø.: "Furnish Composition of Newsprint – Effects on Pressability, Paper and Print Quality". Progress in Paper Physics Seminar. Graz, Austria. Sept. 5-8 (2011).

4. Chinga-Carrasco G., Johnsen, PO and Syverud, K. "A field-emission SEM study of the nanostructure of cellulose fibrils". E50 Workshop - Characterisation and application of cell wall macromolecules. Dübendorf, Switzerland, October 27-29 (2008).

3. Ersoy O, Gourgaud A, Aydar E, Chinga G, Thouret J-C.: "Prediction of changes in volcanic activity based on ash surface textures: a case study, the 1982-83 eruption of Galunggung volcano (Indonesia)". Cities on Volcanoes 4 conference (IAVCEI), Quito-Ecuador (23-27 January 2006)-Poster presentation (2006).

2. Chinga,G., Helle,T. and Johnsen, P.O.: "Analysis of pigment coating layer structure details using digital image processing and analysis and SEM techniques". Poster. "Microscopy as a tool in pulp and paper research and development symposium", Stockholm, Sweden, 21-22 June 1999, p. 217 (1999)

1. Chinga,G. and Helle,T.: "On the assessment of coating layer structure details". Poster. 2000 Progress in Paper Physics Seminar, Grenoble, Frankrike.

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