5. međunarodno savjetovanje Wood structure and properties ´06

Savjetovanje Wood structure and properties ’06 održano je u Sliač-Sielnici, Zvolen, Slovačka, od 3. do 6. rujna 2006, kao već tradicionalni međunarodni simpozij s područja znanosti o drvu, koji se bez prekida održava od 1990. godine. Prva četiri simpozija bila su organizirana pod pokroviteljstvom Tehničkog univerziteta iz Zvolena, a ovaj, peti po redu, i pod pokroviteljstvom IUFRO-a, Sekcije 5.

Za ovaj jubilarni simpozij bilo je prijavljeno 79 znanstvena rada i 47 postera, a svoje su sudjelovanje učešće prijavila 134 znanstvenika iz ukupno 33 zemlje.

ORGANIZACIJA I PROGRAM SIMPOZIJA

Organizatori simpozija bili su Fakultet za znanost i tehnologiju drva Sveučilišta u Zvolenu i IUFRO. Divizija 05.01.00 – Kvaliteta drva. Za organizaciju i provedbu simpozija bili su odgovorni prof. Stanislav Kurjatko (Slovačka), dr. Dave Cown (Novi zeland) i profesor Jozef Kudela (Slovačka).

U Znanstvenom komitetu bilo je 20 znanstvenika iz 15 zemalja svijeta, među kojima i doc. dr. sc. Radovan Despot kao predstavnik Hrvatske i našeg fakulteta.

Simpozij je započeo u nedjelju 3. rujna s dolaskom sudionika i njihovom prijavom u hotelu „Kaskady“. Isti dan prije večere bila je priređena dobrodošlica i koktel.

U ponedjeljak 4. rujna, nakon doručka i registracije sudionika, u 8.30 počeo je simpozij. Jutarnja su izlaganja trajala do 12.40, a nakon ručka nastavljena su izlaganja do 15.40. Službeno otvorenje i dobrodošlica domaćina održani su u kazalištu u Zvolenu, i zajedno s programom folklorne sekcije „Polana“ trajali su od 17.45 do 19 sati.

Slika 1. Izlaganje doc. dr. sc. Radovana Despota

U utorak 5. rujna simpozij je trajao od 8.30 do 12.30 sati, odnosno od 14.00 do 17.20. Poslije toga održana je prezentacija postera. Među posterima je bio zapažen i poster naših kolega doc. dr. sc. Silvane Prekrat i doc. dr. sc. Stjepana Pervana i suradnika.

U srijedu 6. rujna simpozij je započeo u 8.30 sati i službeno završio u 11.10 sati. Nakon ručka sudionici su krenuli kućama, a neki, poput nas iz Hrvatske, obišli su prije povratka i laboratorije Drvnotehnološkog fakulteta u Zvolenu.

Znanstveno obilježje simpozija

Trodnevni rad simpozija bio je predviđen i odvijao se svakodnevno u dvije zasebne i paralelne sekcije.

U prvoj sekciji (***Session 1***) bili su zastupljeni radovi s područja biološke kontrole svojstava drva, odnosno strukture drva i dendrologije (***Biological Control of Wood properties - Wood structure and dendrology***). Predsjedavajući (***chairmans***) te sekcije bili su Cown D. (Novi Zeland), Paule L. (Slovačka), Hapla F. (Njemačka), Čunderlik I. (Slovačka), Olek W. (Poljska), Solar R. (Slovačka) Kuroda K. (Japan) i Zbonak A. (Južna Afrika).

Prezentirani su sljedeći radovi:

Glencross, K. S., Nichols, J. D.: Wood Quality, the key to successful Rainforest Plantations in Tropical and Subtropical Eastern Australia

Hapla, F.: Use- and wood product-orientated investigation on Abies grandis of different growth dynamics

Novitskaya, L., Nikolaeva, N.: Abnormal growth and development of woody plants as a result of a high sucrose level in the cambial zone

Adamopoulos, S.: Radial variation of fiber and vessel member dimensions as an indication of juvenile/mature wood transition in black locust

Antonova, G. F., Chapligina, I. A.: Secondary cell wall structure formation during development and lignification of early- and latewood in larch (*Larix sibirica* Ldb.)

Belkova, L., Mamon, M., Alksne, A., Dolacis, J., Kurjatko, S., Hrol, J.: Some elements of the anatomical structure of Norway spruce (*Picea abies* Karst.) wood growing in Latvia

Birbilis, D. L., Voularidis, E. V.: Investigation of ring shake in chestnut wood (*Castanea sativa* Mill.).

Slika 2. Prezentacija postera sudionika savjetovanja sa Šumarskog fakulteta iz Zagreba

Eriksson, D., Lindberg, H., Bergsten, U.: Prediction of mechanical properties of *Pinus sylvestris* wood from wood structure characteristics

Fabisiak, E., Moliński, W., Cisowski, M.: Changes in the microfibrils angle at the tangential walls of tracheids in larch tree wood (*Larix decidua* Mill.) versus the cambial age of annual rings

Gryc, V., Vavrčík, H.: Effect of the position in a stem on the variability of tracheids in spruce with the occurrence the compression wood

Kitin, P., Fujii, T., Takata, K., Abe, H.: Microcasting techniques for characterization of the three-dimensional structure of wood

Antti, L., Hansson, L.: Microwave treatment of resinous wood

Koňas, P.: FE modeling of wood structure

Konovalova, N.T., Konovalov, N.T., Bazhenov, A.N., Stasova, V.V., Varaksina, T.N., Antonova, G.F.: The effects of supersonic treatment on the structure and components of oak wood

Krutul, D., Dzbeński, W., Makowski, T., Zawadzki, J.: Influence of environmental contamination on the content of some substances in bark and wood of Scoth pine *Pinus sylvestris* L.

Kuroda, K., Yamashita, K., Fujiwara, T., Hirakawa, Y.: Water distribution in the xylem of Cryptomeria japonica associated with the difference of heartwood moisture content

Kwon, S.-M., Kim, N.-H.: Growth ring formation of major wood species growing in Chuncheon, Korea

Merela, M., Serša, I., Oven, P.: Research of anatomy and moisture distribution in beech and oak wood by 3D MR imaging technique

Mirić, M., Popović, Z.: Structural damages of oak-wood provoked by some Stereales – *Basidiomycetes* decaying fungi

Tombaziotis, M. N., Voularidis, E. V.: The appearance of compression wood in hybrid fir (*Abies borisii egis* Matff.) and its impact on the quality of sawn timber

Naidoo, S., Ahmed, F., Zbonak, A.: The effect of moisture availability on wood density and vessel characteristics of *E. grandis* in the warm temperate region of South Africa

Olek, W., Bonarski J.: Changes in wood ultrastructure caused by periodical sorption

Oven, P., Marion, L.: Origin and function of callus in wounded stems of Norway spruce

Steele, P., Cooper, J., Mitchell, B.: Identifying Juvenile Wood in Green Southern Pine Lumber with Dielectric Scanning

Vavrčík, H., Gryc, V., Rybníček, M.: Tracheid dimensions analysis of root xylem of Scots pine

Waliszewska, B., Zborowska, M., Prądzyński, W., Kominek, A.: Chemical composition and heat of combustion of selected *salix* crosses

Waliszewska, B., Zborowska, M., Prądzyński, W., Robaszyńska, M.: Chemical composition of selected species of exotic trees

Zbonak, A., Bush, T.: Application of near-infrared spectroscopy to predict microfibril angle of 14-year-old *Pinus patula*

Johansson, D., Sehlstedt-Persson, M., Morén, T.: Effect of heat treatment on capillary water absorption of heat-treated pine, spruce and birch

Sehlstedt-Persson, M.: Effect of heat treatment on the microstructure of pine, spruce and birch and the influence on capillary absorption

Hemmasi, A.: Longitudinal Growth Prestresses in *Carpinus Betulus*

Amiri, B., Kazemi, Talkouei A., Rasouli, B.: Study of effect of remaining branch and seed tree on regeneration in semi degraded harvested forest

Erakhrumen, A. A., Ogunsanwo, O. Y., Akinlade, A. A. S.: Influence of plantation age on wood specific gravity and selected strength properties of *Gmelina arborea* (Roxb.) grown in Onigambari forest reserve, Nigeria

Sahri, M. H., Bakar, E. S., Ashaari, Z.: Structure and anatomical properties of five year-old and eleven year-old timber latex clones rubber wood

U drugoj sekciji (***Session 2)*** predočeni su radovi s područja bazičnih znanja o drvu i varijacija strukture drva, evaluacije kvalitete drva i njegova utjecaja na finalne proizvode od drva, odnosno ponašanja drva u tehnološkim procesima preradbe (***Fundamental knowledge and variation of wood properties, Evaluation of wood quality and its influence on final products, Behaviour of wood in technologival processes***). Predsjedavajući (***chairmans***) te sekcije bili su Damery, D. (SAD), Kurjatko, S. (Slovačka), Ugolev, B.N. (Rusija), Babiak, M. (Slovačka), Teischinger, A. (Austrija), Dubovsky, J. (Slovačka), Niemz, P. (Švicarska), Horaček, P. (Češka), Nemeth, R. (Mađarska) i Despot R. (Hrvatska).

Prezentirani su sljedeći radovi

Gorišek, Ž., Straže, A.: Sorption and swelling characteristics of normal and tension wood of beech (*Fagus silvatica* L.)

Grekin, M.: Wood colour of Nordic Scots pine and its change under UV radiation

Slika 3. Predavanja u drugoj sekciji

Hasan, M., Despot, R., Rapp, A., Brischke, Ch., Welzbacher, Ch.: Some physical and mechanical properties of gamma radiation terilized wood

Junkkonen, R., Heräjärvi, H.: Physical and mechanical properties of European and hybrid aspen wood after three different drying treatments

Cīrule, D., Lagaňa, R., Kurjatko, S., Hrols, J., Dolacis, J.: Change of some mechanical properties of Norway spruce (*Picea abies* Karst.) wood along the stem and effect of the sample's factor of scale on their indices

Künniger, T., Fischer, A., Richter, K.: Water Soluble Larch Extractives: Impact on 1 P-PUR Wood Bonds

Teischinger, A., Buksnowits, C., Müller, U.: Wood properties of old growth spruce and their technological potential

Horáček, P.: A mechanical study of the root systems of Norway spruce (*Picea abies* /L./ Karst.)

Lehmann, E. H., Mannes, D., Niemz, P.: Neutron and X-ray imaging in wood research

Olek, W., Weres, J., Guzenda, R.: Inverse method application for determining thermal properties of wood-based panels

Papadopoulos, A. N.: Decay resistance of cement-bonded Oriented Strand Board

Petrovici, V., Varodi, A. M., Pîrnuță, O.-A., Colcea, G., Crăciun, V., Scurtu, E., Borzea, I.: Research Studies concerning the Jellification and the Gluing Shearing Strength of the Furan Resin Mixed with Furfurilic Alcohol of the FC-2 URELIT Type

Petrovici, V., Vasile, M. E., Pîrnuță, O.-A., Colcea, G., Crăciun, V., Scurtu, E., Borzea, I.: Research Studies concerning the Gluing Shearing Strength of Some Adhesives Based on Urea-Formaldehyde Resin of the S URELIT Type Used for Cold and Hot Wood Gluing

Přemyslovská, E.: Relation between geometry of fracture surfaces and impact work of wood composite materials

Priedkalns, G., Pušinskis, V., Dolacis, J., Hrols, J.: Strength studies of sawn timber produced from wood of Norway spruce (*Picea abies* L. Karsten.) growing in Latvia

Réh, R.: Wood and Veneer Properties of a Perspective Species for Central European Woodworking Industry – red oak (*Quercus rubra* L.)

Solár, R., Kurjatko, S., Mamoò, M., Neuschlová, E., Hudec, J.: Changes in the selected properties of beech wood degraded by wood destroying fungi

Sarmulis, Z., Liepa, I., Dreska, A., Lipins, L.: Relationships between round timber taper and factors affecting it

Sonderegger, W., Niemz, P.: Comparative study on the thermal conductivity of wood and wood-based materials

Stöd, R., Kilpeläinen, H.: Knot of Scots pine saw timber trees from thinning stands

Sugimoto, H., Miki, T., Norimoto, M., Kanayama, K.: Dielectric relaxation of adsorbed water in wood, paper and charcoal

Száva, J., Pereþeanu, K.-C., Harangus, K.: New Testing Device for Time dependent Glue Behavior Analysis by means of Holographic Interferometry

Tippner, J.: Influence of factors on dynamical behaviour of piano soundboard

Ushakov, V., Filipsons, G., Sidenko, N.: Computer analysis of characteristic features of thermo-gas dynamic properties of friable wood particles in a pulsing flow of the agent of drying

Zborowska, M., Babiński, L., Waliszewska, B., Prądzyński, W.: Characteristics of the chemical composition of the archaeological oak and pine wood from Biskupin

Ugolev, B. N.: Frozen strains of wood as natural intelligent material

Slika 4. Sudionici međunarodnog savjetovanja Wood structure and properties '06

Damery, D. T., Campbell S.: From trees to flooring: value-added processing from a non-industrial private forest improvement harvest

Wimmer, R., Sycacek, E., Rinnhofer, A., Grabner, M.: Wood quality and rapid evaluation of slow and fast-grown larch

Vötter, D.: Forest to Industry Interactions - Allocation and Wood Quality issues during harvesting and transport in EFORWOOD - Sustainability Impact Assessment of the European Forestry-Wood Chain

Sokolowskyy, Y .I., Poberejko, B. P., Denjuk, M. B., Bakalets, A. B.: Dynamics of stressed-strained relaxation fields in wood drying process

Terziev, N., Jäppinen, A.: Pre-manufacturing of studs for building

Pinchevska, O.: The influence of variability parameters of dryer's medium on the selection of drying regimes

Del Menezzi, C. H. S.: The thermal treatment as a technique to improve the performance of the oriented strandboard

Biley, P., Vintoniv, I., Sopushynskyy, I.: Methodology improvement determining the duration of the primary woodheating before drying

Dolacis, J., Svickar, S., Ushakov, V., Engelbreht, A.: Intensification of drying of the loose wood layer by the pulsing gas stream in the filtration regime

Martin, G., Becker, G., Grussenmeyer, H.: The suitability of *Abies grandis* (Grand fir) in SGW mechanical pulping operations for SC magazine paper grades

Straže, A., Gorišek, Ž.: Drying characteristics of compression wood in Norway spruce (*Picea abies* Karst.)

Zejda, J.: Numerical simulation dynamic temperature distribution during the drying process

Sahri, M. H., Bakar, E. S., Ashaari, Z.: Mechanical and strength properties of five year - old and eleven year - old timber latex clone rubber wood

Prezentirani posteri:

1. Becker, B.: Forest warehouse – product-specific allocation of roundwood
2. Bekhta, P., Niemz, P.: Effect of high temperature on the physical and mechanical properties of spruce wood
3. Bodnár, F.: Solution of stresses around holes in a wooden plate under inplane loading
4. de Palacios, P., Esteban, L. G., Fernández, F. G., Guindeo, A.: Determination of the bending and compression strength of Spanish fir wood
5. Dianišková, M., Babiak, M., Lagaňa, R.: The inherent moisture interaction between spruce timber and concrete
6. Gejdoš, M., Teischinger, A., Suchomel, J.: Comparison of roundwood sorting according to European Standards and the national grading rules in Slovakia and Austria
7. Molnár-Hamvas, L., Csonka-Rákosa, R., Börcsök, E., Molnár, J., Németh, K.: Colour and spectral changes of the wood surface due to ultra-violet light exposition and impregnation with chromium
8. Iejavs, J.: Softwood lumber strength glued with higher moisture content
9. Kim, N.-H.: Radial Variation of Rays of Some Major Coniferous Woods Grown in Chuncheon, Korea
10. Kim, N.-H., Kwon, S.-M.: Investigation of carbonization mechanism of wood
11. Kitin, P., Takata, K., Ueno, Y., Terazawa, M.: Development and structure of bark in the stem of *Betula* sp.
12. Kozlov, V.: Changes in Scots pine wood quality due to forest management on drained peatlands
13. Kozlov, V., Kisternaya, M.: Changes in Scots pine wood quality due to forest management on drained peatlands

14. Kúdela, J. – Laurová, M.: Permanent changes in properties of ash wood exposed to hydrothermal plasticization at high temperature
15. Kúdela, J. – Mamoňová, M.: Tree-of-heaven wood (*Ailanthus altissima*, Mill.) – structure and properties
16. Kurjatko, S., Hrčka, R.: Thermal properties of elm (*Ulmus carpinofolia*, Gled.) wood
17. Kurjatko, S., Mamoňová, M., Hudec, J., Babiak, M.: Permeability of elm wood and ash wood for water
18. Lagana, R., Dizhbite, T., Telysheva, G.: An influence of a thermal treatment on surface properties of wood
19. Lazdiņa, D., Lazdiņš, A., Martinsone, K., Kariņš, Z., Kāposts, V., Liepa, I., Hrols, J., Dolacis, J.: Suitability of Latvian willow species and willow clones selected in Sweden for the arrangement of energy wood plantations in Latvia
20. Lazdiņa, D., Miezīte, O.: Wood properties comparison of willows from plantations and alders from native stands
21. Ludwiczak-Niewiadomska, L.: Determining of the elastic properties wood-based materials, such as oriented strand board (OSB), by means of a digital image analysis
22. Makovická-Paulínyová, J., Čunderlík, I.: Structure and some physical properties of spruce juvenile wood
23. Makovická-Paulínyová, J., Pivolusková, E., Kotlínová, M., Kloiber, M.: Chosen physical properties of spruce juvenile wood
24. Mamoňova, M., Tiralová, Z., Mamoň, M.: Measurement of the density profile of wood in the process of its bio-degradation
25. Manso Martin, M., Nutto, L., Becker, G.: Behaviour of Nothofagus betuloides during kiln and vacuum drying
26. Mayevskyy, V., Maksymiv, V., Sopushynskyy, I., Teischinger, A.: The effect of a sawing angle on wood texture
27. Mihalevschi, D., Badescu, L. A. M., Cernica, I. : Nanotechnologies in wood industry – perspectives
28. Mirić, M., Ivković, S., Todorović, N.: Wood tissue preparations technique for microscopical analysis using normal, UV, blue – fluorescence and polarized light
29. Mišíková, O.: The hardness and density of beech wood in the area of a necrotic wound and opposite wood
30. Nemeth, R.: The effect of thermal modification on the durability of wood against fungal decay
31. Nemeth, R., Molnar, S., Abraham, J., Koman, S.: Wood anatomy and mechanical characteristics of several fast growing robinia variety candidates grown on different sites
32. Niemz, P., Popper, R.: Influence of the extractives of selected extraneous woods on the equilibrium moisture content
33. Ohnesorge, D.: The suitability of Beech timber with red heartwood for structural proposes – Part of the EU – CRAFT project Innovation for Beech
34. Pervan, S., Prekrat, S., Gorišek, Ž., Straže, A., Humar, M.: Effect of steaming on colour and chemistry of cherrywood (*Prunus avium* L.)
35. Praus, L., Vavrčík, H., Koòas, P.: Wood properties of Black walnut (*Juglans nigra* L.)
36. Račko, V., Čunderlík, I.: A selected mechanical properties of „hazel wood“ in norway spruce (*Picea abies* L.)
37. Serrano, E., Blumer, S., Gustafsson, P. J., Niemz, P.: Moisture induced stresses and deformations in parquet floors - an experimental and numerical study
38. Sopushynskyy, I., Vintoniv, I., Teischinger, A., Sopushynska, M., Mayevskyy, V.: Selection of maple “birdseye” (*Acer pseudoplatanus* l.) In the ukrainian carpathian mountains
39. Spulle, U., Pušinskis V.: Research of strength of euro pallets
40. Stingl, R., Oltean, L., Huber, H., Teischinger, A., Hansmann, Ch.: Thermal treatment of Beech with red heartwood
41. Tolvaj, L., Németh, R., Beikircher, W., Molnár, S.: Colour homogenisation of white and red heartwood of beech by steaming
42. Wieloch, G., Hric, J., Henszel, V.: Wood machinability before and after thermal modification
43. Zeidler, A., Bohm, M.: Wood properties of minor tree species in the czech republic – bird cherry and black cherry
44. Zhang, Ch., Yang, D.-Q., Fujita, M., Wan, H., Abe, H., Fujiwara, T.: Microscopic observation of resin penetration in Aspen
45. Ella Arsenio, B.: Variability of Some Wood Quality Indicators of *Pinus caribaea* Morelet In Philippine Plantations
46. Ella Arsenio, B.: Wood Anatomy, Structure and Some Physical Characteristics of Philippine Vatica (Narig Group): Family Dipterocarpaceae
47. Kasal, B., Peszlen, I.: Testing of mechanical properties of genetically altered wood

Značenje i vrijednost simpozija

Simpozij je okupio znanstvenike sa svih kontinenata svijeta. Ovaj put pod pokroviteljstvom IUFRO-a, uspostavljenesu nove i obnovljene stare veze. Tijekom formalnog i neformalnog druženja međusobno su razmijenjene ideje i iskustva u znanstvenom radu, a prema osobnom saznanju, dogovoreno je više suradnji i posjeta.

Nakon dosadašnjih sudjelovanja hrvatskih predstavnika na simpoziju 1994. i 1998, ovo je bilo treće sudjelovanje hrvatskih znanstvenika na savjetovanju.

doc. dr. sc. Radovan Despot
doc. dr. sc. Silvana Prekrat
doc. dr. sc. Stjepan Pervan