

Dr. René Steiger (Switzerland)

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COST FP1402, MC Substitute, WG1 Member



<i>Personal</i>	<i>Organisation</i>		
Years of experience in relevant field: 20 Expertise: Mechanical properties of solid timber and glulam, strength grading, quality control, buckling of columns, 2nd order structural analysis, seismic design of timber structures, test methods, code writing, glued-in rods Degree: PhD. (23.07.1996)	Structural Engineering Research Laboratory (www.empa.ch) Focus: practical research/innovatgion, education/training and expert's opinion Facilities : Testing lab with 12.0 m x 40.8 m strong floor, several universal testing machines and hydraulic jacks of different capacities, extensive equipment for performing static and dynamic experiments in the lab and on-site, cable testing, concreting plant.		
	No. of staff	PhD students	MSc/year
	2	1	2
<i>Research projects</i>			
WG 2 - Solid Timber Construction: - Earthquake-resistant timber system for multi-storey buildings. 4 years. 4 persons. - Assessment of the residual load-carrying capacity of large span glulam members with cracks. 2 years. 3 person. - Homogeneous and combind glulam made from beech wood - Technical basis for the market implementation as building product used for beams and columns. 3 years. 4 persons. WG 3 - Connections: - Enhancement of compression perp. to grain strength of glulam with pin-shaped fasteners. 2 years. 3 persons. - Structural behaviour of glued laminated timber beams with unreinforced and reinforced nothces. 4 years. 3 persons. WG 4 - Hybrid Structures: - CLT-concrete composite slab lacking of any rebar and metallic shear connectors. 1.5 years, 3 persons.			
<i>Publications</i>			
WG 1 - Basis of Design: Köhler J., Steiger R., Fink G., Jockwer R. 2012: Assessment of selected Eurocode based design equations in regard to structural reliability. Proceedings of CIB-W18 Meeting 45, Växjö, Sweden, August 27 – 30, 2012. Paper 45-102-1. WG 2 - Solid Timber Construction: Theiler M., Frangi A., Steiger R. 2013: Strain-based calculation model for centrally and eccentricly loaded timber columns. Engineering Structures 56: 1103 – 1116. Steiger R., Gehri E. 2011: Interaction of shear stresses and stresses perpendicular to the grain. Proceedings of CIB-W18 Meeting 44, Alghero, Sardegna (Italy), August 28 – September 1, 2011. Paper 44-6-2. Steiger R., Arnold A. 2009: Strength grading of Norway spruce structural timber: Revisiting property relation-ships used in EN 338 classification system. Wood Science and Technology 43 (3-4): 259 – 278. Steiger R., Fontana M. 2005: Bending moment and axial force interacting on solid timber beams. Materials and Structures 38 (279): 507 – 513. WG 3 - Connections: Tlustochowicz G., Serrano E., Steiger R. 2011: State-of-the-art review on timber connections with glued-in steel rods. Materials and Structures 44 (5): 997 – 1020. Steiger R., Köhler J. 2005: Analysis of censored data - Examples in timber engineering research. Proceed-ings of CIB-W18 Meeting 38, Karlsruhe, Germany, August 29 – 31, 2005. Paper 38-17-1.			

