



PROGRAM IGLC-12 CONFERENCE

August 3rd – 5th 2004, Denmark

Tuesday August 3rd

Time	Event	Presented by	Proc. page
8:30	Opening		
8:45	Session 1 - Theory	Lauri Koskela and Sven Bertelsen	1
	Construction Beyond Lean: A New Understanding of Construction Management <i>Sven Bertelsen and Lauri Koskela</i>	Sven Bertelsen	30
	The Two Great Wastes - A Typology for Addressing the Concern for the Underutilization of Human Potential <i>Hal Macomber and Gregory Howell</i>	Gregory Howell	13
	Leadership and Project Management: Time for a Shift From Fayol to Flores <i>Gregory A. Howell, Hal Macomber, Lauri Koskela and John Draper</i>	Gregory A. Howell	22
	Making Do - The Eighth Category of Waste <i>Lauri Koskela</i>	Lauri Koskela	3
	Discussion		
10:00	Coffee break		
10:30	Session 2 - Theory	Lauri Koskela and Sven Bertelsen	
	The Self-Destruction and Renewal of Koskela's TFV Theory: A Prediction from Boyd's Theory <i>Tariq S. Abdelhamid</i>	Tariq S. Abdelhamid	42
	Understanding Construction as a Complex and Dynamic System: An Adaptive Network Approach <i>Ruben Vrijhoef and Michael K.L. Tong</i>	Ruben Vrijhoef	61
	Nature of Construction Technology <i>Andrew S. Chang and Kuan Pei Lee</i>	Andrew S. Chang	74
	Perspectives on non-value added activities: the case of piece-rate in the Swedish construction industry <i>Lasse Saukkoriipi</i>	Lasse Saukkoriipi	84
	Towards a Lean Understanding of Resource Allocation in a Multi-Project Sub-Contracting Environment <i>Rafael Sacks</i>	Rafael Sacks	97
	Discussion		
12:00	Lunch		

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13:00	Parallel Session 3A - Labor and Trades Management	Gunde Odgaard	111
	Training Field Personnel for Small to Medium Construction Companies: An Alternative Tool to Increase Productivity <i>Sugiharto Alwi</i>	Sugiharto Alwi	113
	Value Carriers in a Construction Project – How Different are they? <i>Søren Wandahl</i>	Søren Wandahl	126
	Revealing Cultures and Sub-Cultures During the Implementing of Lean Construction <i>Bo Jørgensen, Stephen Emmitt and Sten Bonke</i>	Bo Jørgensen	141
	BygLOK - a Danish Experiment on Cooperation in Construction <i>Steen Elsborg, Allan Dam and Sven Bertelsen</i>	Steen Elsborg	154
	Achieving Collaboration in the Construction Supply Chain: An Onsite Subcontractors' Evaluation Methodology <i>Sergio Maturana, Luis Alarcón, and Mladen Vrsalovic</i>	Luis Alarcón	165
	Discussion		
14:20	Coffee break		
13:00	Parallel Session 3B - Production Control and Cost Management	Marton Marosszeky	181
	Task Planning as a Part of Production Control <i>Juha-Matti Junnonen and Olli Seppänen</i>	Olli Seppänen	183
	Project Micro-Management: Practical Site Planning and Management of Work Flow <i>Russel Kenley</i>	Russel Kenley	194
	Empirical Research on Deviations in Production and Current State of Project Control <i>Olli Seppänen and Jouko Kankainen</i>	Olli Seppänen	206
	Guidelines for Improving Cost Management in Fast, Complex and Uncertain Construction Projects <i>Andrea P. Kern and Carlos T. Formoso</i>	Andrea P. Kern	220
	The St. Olaf College Fieldhouse Project: A Case Study in Designing to Target Cost <i>Glenn Ballard and Paul Reiser</i>	Paul Reiser	234
	Discussion		
14:20	Coffee break		
14:50	Session 4 - Buffer Management and Work Structuring	Iris Tommelein	261
	How to Reduce Batch-Size <i>Anni Schmidt Nielsen and Mikkel Andreas Thomassen</i>	Anni Schmidt Nielsen og Mikkel Andreas Thomassen	263
	Simulation of Buffering and Batching Practices in the Interface Detailing - Fabrication - Installation of HVAC Ductwork <i>Thais da C.L. Alves and Iris D. Tommelein</i>	Thais da C.L. Alves	277
	Creating Work Structuring Transparency in Curtain Wall Design <i>Cynthia C.Y. Tsao and Iris D. Tommelein</i>	Cynthia Tsao	291

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	Simulation as an Aid Tool to Best Utilization of Lean Principles <i>Abdulsalam A. Al-Sudairi</i>	Abdulsalam A. Al-Sudairi	306
	The Design of Production Systems for Low-Income Housing Projects <i>Fábio K. Schramm, Dayana B. Costa and Carlos T. Formoso</i>	Carlos T. Formoso	317
	Reducing Schedule in Repetitive Construction Projects <i>Luis F. Alarcón, Cristian Betanzo and Sven Diethelm</i>	Luis F. Alarcón	330
	Non-Unit Based Planning and Scheduling of Repetitive Construction Projects <i>Rong-yau Huang and Kuo-Shun Sun</i>	Rong-yau Huang	343
	Discussion		
16:30	Summing Up Day One	Gregory Howell	
19:00	Dinner		

Wednesday August 4th

Time	Event	Presented by	Proc. page
8:30	Session 5 - Product Development	Michael Kagioglou and Stephen Emmitt	357
	Implementing Value Through Lean Design Management <i>Stephen Emmitt, Dag Sander, Anders Kirk Christoffersen</i>	Stephen Emmitt	361
	The Architectural Technologist's Role in Linking Lean Design with Lean Construction <i>Elizabeth Brookfield, Stephen Emmitt, Robert Hill, and Steve Scaysbrook</i>	Robert Hill	375
	A Theory of Workplace Planning: General Principles and a Management Steering Model <i>Ari Pennanen, Michael Whelton and Glenn Ballard</i>	Ari Pennanen	388
	Fostering Collaboration and Learning in Project Definition: A Case Study in Workplace Planning <i>Michael Whelton, Ari Pennanen and Glenn Ballard</i>	Ari Pennanen	403
	Evaluation of Product Development Process Models with a View to its Implementation <i>Patricia Tzortzopoulos, Martin Sexton, Rachel Cooper and Mike Kagioglou</i>	Patricia Tzortzopoulos	417
	Manufactured Housing Construction Value Using the Analytical Hierarchy Process <i>Afshan Barshani, Tariq S. Abdelhamid, and Matt Syal</i>	Tariq S. Abdelhamid	433
	Discussion		
10:10	Coffee break		
10:40	Session 6 - Performance Measurement	Takis Mitropoulos	449
	Performance Measurement Systems for Benchmarking in the Construction Industry <i>Dayana B.Costa, Carlos T. Formoso, Michail Kagioglou and Luis F. Alarcón</i>	Dayana B.Costa	451
	Lessons Learnt in Developing Effective Performance Measures for Construction Safety Management <i>Marton Marosszeky, Khalid Karim, Steven Davis, Nitin Naik</i>	Marton Marosszeky	464
	Customer Satisfaction in the Construction <i>Sami Kärnä, Juha-Matti Junnonen, and Jouko Kankainen</i>	Sami Kärnä	476
	Waste in Turkish Construction: Need for Lean Construction Techniques <i>Gul Polat and Glenn Ballard</i>	Gul Polat	488
	A System for Evaluating the Ongoing Building Process –Theory and Practice <i>Randi Muff Ebbesen</i>	Randi Muff Ebbesen	502
	Discussion		
12:00	Lunch		
13:00	Session 7 - Supply Chain Management and Lean	Ruben Vrijhoef	519
	Time Study on Two-Echelon Supply Chain for Steel Framing Construction by Using Networking Simulation Model <i>Chun-Nen Huang, Yi, June Seong and Jeffrey S. Russell</i>	Chun-Nen Huang	521

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	Improving the Delivery Process for Engineered-To-Order Products - Lessons Learned from Power Distribution Equipment <i>Jan A. Elfving, Iris D. Tommelein and Glenn Ballard</i>	Jan A. Elfving	534
	Lean Supply Systems in Construction <i>Roberto Arbulu and Glenn Ballard</i>	James Choo	547
	Application of Lean Supply Chain Concepts to a Vertically-Integrated Company: a Case Study <i>Nadia G. Akel, Iris D. Tommelein and J.C. Boyers</i>	Iris D. Tommelein	560
	Value Stream Macro Mapping - A Case Study of Aluminium Windows for Construction Supply Chain <i>Patricia S. P. Fontanini and Flávio A. Picchi</i>	Flávio A. Picchi	576
	An Analysis of the Life-Cycle Curtain Wall Process through Supply Chain Management <i>S. Chin, S. W. Yoon, S. O. Jung, Y. S. Kim, C. D. Kim, Y. K. Choi, J. Y. Chun, and H. C. Lim</i>	Sangyoon Chin	588
	Resource Basins – A Strategic Challenge for the Building Industry <i>Malene Møller and Erik Bejder</i>	Erik Bejder	600
	Discussion		
14:30	Coffee break		
15:00	Session 8 - Prefabrication & Assembly	Glenn Ballard	627
	Making Prefabrication Lean <i>Glenn Ballard and Roberto Arbulu</i>	Glenn Ballard	629
	Tolerance Mapping - Partition Wall Case Revisited <i>Colin Milberg and Iris D. Tommelein</i>	Colin Milberg	643
	Off-Site Production: Evaluating the Drivers and Constraints <i>Christine Pasquire, Alistair Gibb and Nick Blismas</i>	Christine Pasquire	655
	Flowshop Scheduling Model for Bespoke Precast Concrete Manufacturing under Comprehensive Crew Organization <i>Vacharapoom Benjaoran and Nashwan Dawood</i>	Vacharapoom Benjaoran	663
	Innovative and Lean Construction Success Factors for Component Manufacturers <i>Lars Stehn and Matilda Höök</i>	Matilda Höök	675
	Industrialization of Construction - A Lean Modular Approach <i>Anders Björnfot and Lars Stehn</i>	Anders Björnfot	689
	Discussion	Gregory Howell	
16:30	Summing Up Day Two		
19:00	Conference dinner		

Thursday August 5th

Time	Event	Presented by	Proc. page
8:30	Parallel Session 9A - IT support for Lean Construction	Lucio Soibelman	703
	Sequential Analysis of Reasons for Non-Completion of Activities: Case Study and Future Directions <i>Jose Nilton Oliveira Filho, Lucio Soibelman and James Choo</i>	Lucio Soibelman	705
	Lean Construction Principles in Infrastructure Construction <i>Jani Kemppainen, Juuso Mäkinen, Olli Seppänen and Jouko Kankainen</i>	Jani Kemppainen	716
	Implementation of Line-of-Balance Based Scheduling and Project Control System in a Large Construction Company <i>Mika Soini, Ilkka Leskelä and Olli Seppänen</i>	Ilkka Leskelä	725
	Discussion (20 min)		
9:30	Coffee break		
8:30	Parallel Session 9B - Safety, Quality and Environment	Gregory Howell	763
	A Human Error Perspective of Safety Planning and Control <i>Tarcisio A. Saurin, Carlos T. Formoso, and Fabricio B. Cambraia</i>	Carlos T. Formoso	765
	Agent-Based Modelling of Worker Safety Behavior at the Construction Workforce <i>Kenneth D. Walsh and Anil Sawhney</i>	Kenneth D. Walsh	779
	Production Rate - Construction Quality Relationships in US Residential Construction <i>Kenneth D. Walsh, Howard H. Bashford, and Anil Sawhney</i>	Kenneth D. Walsh	793
	Quality Control in Lean Construction <i>Esben Misfeldt and Sten Bonke</i>	Esben Misfeldt	803
	Discussion (20 min)		
9:30	Coffee break		
10:00	Session 10 - Implementation	Luis Alarcon	815
	Toyota Production System Adopted by Building Construction in Japan <i>Yoshitaka Nakagawa and Yoshitugu Shimizu</i>	Yoshitaka Nakagawa	817
	Construction Sites: Using Lean Principles to Seek Broader Implementations <i>Flávio A. Picchi and Ariovaldo Denis Granja</i>	Flávio A. Picchi	833
	The Path from Lean Manufacturing to Lean Construction: Implementation and Evaluation of Lean Assembly <i>O. Salem, A. Genaidy, M. Luegring, O. Paez and J. Solomon</i>	Sam Salem	845
	Management Innovation Brokers <i>Rolf Simonsen, Sten Bonke and Pernille Walløe</i>	Rolf Simonsen	859
	Shaping Lean Construction in Project based Organisations <i>Rolf Simonsen and Christian Koch</i>	Rolf Simonsen	872

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	Activation of Hidden Resources. Experience from a Development Initiative in a Regional Area in Denmark <i>Willy Olsen, Randi Muff Ebbesen, Søren Wandahl and Erik Bejder</i>	Willy Olsen	885
	Implementing Lean: UK Culture and System Change <i>Eric Johansen, Geoff Porter, and David Greenwood</i>	Eric Johansen	900
	Project Strategic Planning - a Prerequisite to Lean Construction <i>Tom Crow and Peter Barda</i>	Tom Crow	913
	Discussion (40 min)		
12:00	Lunch		
13:00	Open session	Gregory Howell	
15:00	Coffee break		
15:30	Business meeting	Glen Ballard	
16:45	Closing		
19.00	Farewell Barbecue		

Friday August 6th

8.30	Site visit to the Danish Broadcast Association construction site
12.00	Lunch at the Danish Broadcast Association NB! Transport back to Elsinore is not included, as we expect participants staying will use the rest of Friday in Copenhagen.

Paper statistics

The IGLC 2004 conference presents 69 papers written by 131 different authors from 17 countries.

Country	Papers	Authors
USA	22	32
Denmark	14	19
United Kingdom	10	17
Brazil	8	14
Finland	7	9
Taiwan	4	8
Sweden	3	4
Chile	3	5
Australia	2	6
South Korea	2	9
Netherlands	1	1
Israel	1	1
Indonesia	1	1
New Zealand	1	1
Saudi Arabia	1	1
Turkey	1	1
Japan	1	2

Continents	Papers
Europe	36
North America	22
South America	11
Asia & Middle East	10
Oceania	3