NTNU

June 29th - 30th, 2016

6TH CONFERENCE ON LEARNING FACTORIES

Sponsored by the CIRP and SFI Manufacturing

Wednesday, June 29TH 2016

Venue site: Raufoss Industry Park - Building 1, Enggata 40, 2830 Raufoss

11:00	Registration
12:00	Lunch
13:00-14:00	***Plenary session:*** *Welcome* *Professor Dr.Ing. Kristian Martinsen* Knowledge management in the Raufoss industry cluster *Ottar Henriksen, Project director, SINTEF Raufoss Manufacturing AS* Industrial Experiences from LeanLab Learning factory *Tore Hjelmås, Plant manager, Nammo Raufoss AS* *University Experiences from LeanLab learning Factory,* *Torbjørn Skogsrød, Dean,* *NTNU faculty of Technology, Economy and Management*
14:00–17:00	***Parallel sessions:*** Workshop at the LeanLab Learning Factory Tour of Raufoss Industry Park
17:00	*Bus to the hotel*
19:00	**Conference dinner**

Presentation of NTNU:
https://innsida.ntnu.no/documents/portlet_file_entry/10157/brosjyre_engelsk.pdf/b6b6ccad-cc59-470f-9395-14283f8e9b78?status

Thursday, June 30TH 2016: Conference Day

Venue site: NTNU Gjøvik, Teknologiveien 22, Gjøvik

08:30	**Plenary session** - *Room K105* Chairman: Professor Dr.Ing. Kristian Martinsen
08:30	Welcome Speech *Professor Dr.Ing. Jørn Wroldsen,* NTNU vice rector
08:45	Research and Innovation in Norway *Dr.phil. Anne Kjersti Fahlvik Executive Director, Norwegian Research Council*
09:10	Knowledge and Innovation Community on Added-value Manufacturing *Professor Dr. Ing. George Chryssolouris,* *Director of the Laboratory for Manufacturing Systems & Automation, University of Patras, Greece*
09:35	Recent Advances in Learning Factories Research *Prof. Dr. Ing. Joachim Metternich* *Associate Director, Institute of Production Management, Technology and Machine Tools,* *President of the Initiative on European Learning Factories*
10:00	**Coffee Break** - *Atrium A-building*

Parallel sessions 1

10.30

	1A- Room K105	1B – Room K102	1C – Room K109
	Learning in Industry 4.0 / Cyber Physical Manufacturing Systems	**Learning Factories**	**SFI Manufacturing**
10:30	Holistic approach for human resource management in industry 4.0 **F.Hecklau***, *M.Galeitzke, S.Flachs, H.Kohl*	Benefits of a learning factory in the context of lean management for the pharmaceutical industry **C.Rybski***	Industrialization of Metal Powder Bed Fusion through Machine Shop Networking **V.Brøtan***, *J.Fahlstrøm, K.Sørby*
10:50	Implementing cyber-physical production systems in learning factories **M.Juraschek***, *S.Thiede, C.Herrmann*	Preconditions for Learning Factory. A case study **O.Ogorodnyk***, *M. Granheim, H.Holtskog*	Additive manufacturing for enhanced performance of molds **V.Brøtan***, *O.Å.Berg, K.Sørby*
11:10	Tangible Industry 4.0: A scenario-based learning factory approach for future production **S.Erol***, *A.Jäger, P.Hold, W.Sihn*	Adaptation and implementation of modern learning techniques in master of sustainable manufacturing: cultural challenges, effects and potential for improvement **J. Sterten***, *K.Nordskogen, A.Verlan*	Distributed, Autonomous Control in Production of Jet Turbine Parts **P.A.Nyen***, *E. Polanscak, O.Roulet-Dubonnet, M.Lind*
11.30	Decentralized control of logistic processes in cyber-physical production systems at the example of ESB Logistics Learning Factory **J.Schuhmacher***, *V.Hummel*	Learning Factories - Case from High Value Manufacturing Requirement **O.Ellingsen***	Atomistic modelling of interfaces in cold welded joints **P.H.Ninive***
11:50	Railway Operation Research Centre - a Learning Factory for the Railway Sector **C.Streitzig***, *A.Oetting*	Combining learning factories and ICT-based situated learning **N.Tvenge***, *K.Martinsen, S.Kolla*	Comparative Study on the Effect of Different Lubrication Techniques on Component **O.Fergani***, *Y.Shao, S.Liang, T.Welo*

*presenting author

12:10	**LUNCH – Canteen G-building**

13:10	**Parallel sessions 2**		
	2A- Room K105	*2B – Room K102*	*2C – Room K109*
	Learning in Industry 4.0 / Cyber Physical Manufacturing Systems	**Learning Factories**	**Cooperation, Flexibility and Transparency in Manufacturing Education and Learning**
13:10	Using a learning factory approach to transfer Industrie 4.0 to small- and medium-sized enterprises **A.Wank*,** S.Adolph, O.Anokhin, A.Arndt	Extending the scope of future learning factories by using synergies through an interconnection of sites and process chains **M.Weeber*,** C.Gebbe, M.Lutter-Günther, J.Böhner, J.Glasschroede, R.Steinhilper, G.Reinhart	Manufacturing Education- Facilitating a Collaborative Learning Environment for Industry and University **O.J.Mork*,** I.E.Hansen, L.A.Giske, P.S.Kleppe, K.Strand
13:30	Creation of a Learning Factory for Cyber Physical Production Systems **A.Pöhler*,** I.Gräßler, J.Pottebaum	BERTHA - A flexible learning factory for manual assembly **S.Schreiber*,** L.Funke, K.Tracht	State of the Art of Makerspaces - Success Criteria when Designing Makerspaces for Norwegian Industrial Companies **M.B.Jensen*,** C.C.S. Semb, S.Vindal, M.Steinert
13:50	The MTA SZTAKI Smart Factory: platform for research and project-oriented skill development in higher education **Z.Kemeny*,** R.J. Beregi, G. Erdős, J.Nacsa	Simulation Game for Intelligent Production Logistics - The PuLL® Learning Factory **J.S.Blöchl*,** M.Schneider	The principle of the stored program applied to servo motors **S.Fjeldaas*,** M.L.Furevik
14:10	Learning factories for the operationalization of sustainability assessment tools for manufacturing: bridging the gap between academia and industry **A.Moldavska*,** J.V.Abreu-Peralta	Educational Learning Factory of a holistic product creation process **P.Taplick*,** I.Gräßle, J.Hentze	Intelligent learning management by means of multi-sensory feedback **S.Aymans*** G.Posselt, S.Böhme,, C.Herrmann, S.Kauffeld
14.30		Integrated and Modular Didactic and Methodological Concept for a Learning Factory ***G. Lanza*,** S.Minges, J.Stoll, E.Moser, B.Häfner*	
14:50	**Coffee Break** - *Atrium A-building*		
15:10	**Parallell session 3**		
	3A - Room K105	*3B - Room K102*	*3C - Room K109*
	Lean learning	**Research Based Innovation and Learning**	**Cooperation, Flexibility and Transparency in Manufacturing Education and Learning**
15:10	Lean Learning Patterns. (CPD)nA vs. KATA **J.V.Diez*,** J.Ordieres-Meré, S.Rubio-Valdehita	EtherCAT-integrated processing machine with full local task redundancy **M.Lind*,** E.Morset, M.Bredeli	Effective Measures for Municipal Solid Waste Management Practices **A.Taweesan*,** T.Koottatep , C.Polprasert
15:30	Application of modern educational methods through implementation of the ambulance simulator at a clinic laboratory (NTNU in Gjøvik) **J.Sterten*,** O.Ogorodnyk	Enhancing Integrative Capabilities through Lean Product and Process Development **E.Synnes*,** T.Welo	Multi-serial truck production - Product variants and its impact on production quality in manual assembly **P.E.C.Johansson*,** S.Mattsson, L.Moestam, Å.Fast-Berglund
15:50	Case study: Development of social relations for management, learning and creation of social learning models **K.Nordskogen*,** J.Sterten	Method for configuring product and order flexible assembly lines in the automotive industry **C.Küber*,** E.Westkämper, B.Keller, H-F.Jacobi	Prototyping to Leverage Learning in Product Manufacturing Environments **J.A.B.Erichsen*,** A.L. Pedersen, M.Steinert , T.Welo
16:10	Using Marker-less Motion Capture Systems for Walk Path Analysis in Paced Assembly Flow Lines **P.Agethen*,** M.Otto, S.Mengel, E.Rukzio	Model factory for additive manufacturing of mechatronic products: Interconnecting world-class technology partnerships with leading AM players I.**S.Yoo*,** C.Kaestle, M.Spahr, J.Franke, P.Kestel, S.Wartzack, J.Bromberger, E.Feige	Integrating Intralogistics into Resource Efficiency Oriented Learning Factories **C.Lehmann*,** M. Scholz, S.Kreitlein , J. Böhner, J.Franke, R.Steinhilper
16:30	**Conference Summary** Room K105 – *official end at 17:00*		