

## SYMPOSIUM SCHEDULE

<b>Sunday 18.07</b>			
14:00-20:00	Registration		
18:00-20:00	Welcome reception		
<b>Monday 19.07</b>			
8:00-13:00	Registration		
10:00-10:30	Symposium opening		
10:30-11:15	Hirose Katsuhiko Japan Plenary Metal Hydride, the Material which Lead Success of Hybrid and Coming Fuel Cell Vehicle. The Key Material and Technologies for the Current and Future Power		
11:15-11:45	Coffee break		
11:45-12:30	Graetz Jason USA Plenary Aluminium hydride as a hydrogen and energy storage material: past, present and future		
12:30-13:15	Fichtner Maximilian Germany Plenary Conversion materials for hydrogen storage and electrochemical applications - concepts and similarities		
13:15-15:15	Lunch		
	<b>South Auditorium</b>	<b>North Auditorium</b>	<b>Lecture room 446</b>
	<b>Chair: M.Fichtner</b>	<b>Chair: E.Akiba</b>	<b>Chair: A.Skripov</b>
15:15-15:55	Yamauchi Miho Japan F4 Invited Hydrogen-Related Properties of Metal and Alloy Nanoparticles	Latroche Michel France A1 Invited Metallic hydrides as efficient electrode materials in advanced batteries	Lototskyy Mykhaylo South Africa A3 Invited Surface-Modified Advanced Hydrogen Storage Alloys for Hydrogen Separation and Purification
15:55-16:15	Orimo Shin-ichi Japan M1 Invited "High-Density Hydrogen Storage" and "Lithium Super(Fast)-Ionic Conduction" in Metal Borohydrides	Aymard Luc France A1 Keynote Hydrides as negative electrode for Li-ion batteries. New opportunities for Metal hydrides and Li-ion technologies From micrometrics to nanometric size range	Yukawa Hiroshi Japan A3 Oral V-W Alloy Membranes for Hydrogen Purification
16:15-16:35			Livshits Alexander Russian Federation A3 Oral Hydrogen permeation through the Pd-V/Nb-Pd composite membranes: surface effects and thermal degradation
16:35-16:55	Poster summaries	Poster summaries	Poster summaries
16:55-17:25	Coffee break		
17:25-19:25	<b>Poster session 1</b>		

**Tuesday 20.07**

	<b>Chair: B.Hauback</b>	<b>Chair: A.Züttel</b>	<b>Chair: R.Cantelli</b>
9:00-9:20	Kolesnikov Alexander USA M1 Oral Neutron spectroscopy of magnesium dihydride	Vajeeston Ponniah Norway M2 Keynote Nanophase aspects of hydrogen storage materials - a theoretical study	Filinchuk Yaroslav France F2 Invited Structure and bonding in metal borohydrides
9:20-9:40	Yu Xuebin China M1 Oral Improved Dehydrogenation of Ca(BH <sub>4</sub> ) <sub>2</sub> Comibend with LiNH <sub>2</sub>		
9:40-10:00	Bobet Jean-Louis France M1 Oral Hydrogen behaviour of new ternary alloys with high magnesium content	Skryabina Nataliya Russian Federation F2 Phase transformation in Ti-V-Cr-H composition	Eijt Stephan W.H. The Netherlands F2 Oral Di-vacancies and the hydrogenation of Mg-Ti films with short-range chemical order
10:00-10:20	Llamas-Jansa Isabel Norway M1 Oral Na(BH <sub>4</sub> ) <sub>1-x</sub> Cl <sub>x</sub> prepared by mechano-chemical methods from NaBH <sub>4</sub> and transition metal chlorides – structural and hydrogen storage properties		
10:20-10:50	Coffee break		
10:50-11:10	Culligan Scott United Kingdom M1 Oral The Effects of Alkali Metal Borohydrides on the Crystal Structure and Hydrogen Storage Properties of Calcium Borohydride	Majzoub Eric USA M2 Keynote Thermodynamics of nano-cluster complex hydrides using first-principles density functional theory	Ravelli Luca Germany F2 Oral Positron lifetime measurements for monitoring vacancies and vacancy clusters in hydride forming materials
11:10-11:30	Selvaraj Nivas Babu Poland M1 Oral Visualising hydrogen absorption/desorption in a MH storage tank using Neutrons		Ogawa Hiroshi Japan F2 Oral Simulation study on structure variation of metallic nanoparticles due to hydrogenation
11:30-11:50	Morozova Olga Russian Federation M1 Oral Effect of mechanically induced modification on TiH <sub>2</sub> thermal stability	Dornheim Martin Germany M2 Keynote Reaction mechanism and kinetics of MgH <sub>2</sub> /borohydrides based Reactive Hydride Composites	Nakamura Yumiko Japan F2 Oral Structural Studies of Hydrogen Storage Materials using Total Scattering and the PDF Method

11:50-12:10	Gabis Igor Russian Federation F5 Oral Kinetics of dehydrogenation of MgH <sub>2</sub> and AlH <sub>3</sub>		Maehlen Jan Petter Norway F2 Oral Vibrational properties of CeNiSn-Hydrides
12:10-14:10	Lunch		
	<b>Chair: D.Fruchart</b>	<b>Chair: S.Orimo</b>	<b>Chair: E.Gray</b>
14:10-14:30	Pinkerton Frederick USA M1 Oral Formation and Decomposition of Lithium-Boron-Nitrogen-Hydro gen Quaternary Compounds	Nielsen Thomas Kollin Denmark M2 Oral A Reversible Nanoconfined Chemical Reaction	Pottmaier Daphiny Italy F2 Oral Phase Stability in the LiNH <sub>2</sub> :MgH <sub>2</sub> system
14:30-14:50	Brocks Geert The Netherlands M1 Oral Improving Hydrogen Storage in Magnesium: A First-Principles Study	Ichikawa Takayuki Japan M2 Oral Lithium-Silicon Alloy as Hydrogen Storage Material	Rude Line Holdt Denmark F2 The effect of anion substitution in metal
14:50-15:10	Sulic Martin USA M1 Oral Sodium Alanate as a Practical Automotive On-board Solid-state Hydrogen Storage Medium	Sartori Sabrina Norway M2 Oral Nanosized complex hydrides in carbon scaffolds	Mengucci Paolo Italy F2 Oral Structure modification of nanocrystalline Mg-Nb films
15:10-15:30	Somenkov Victor Russian Federation M1 Oral Nanoscale fullerenes and fullerene hydrides	Soulie Jean-Philippe United Kingdom M2 Oral Magnesium-Boron-Titanium hydride system by high throughput method	Sakaki Kouji Japan F2 Oral Dependence of the chemical composition on the crystal structure of Mg <sub>2-x</sub> RE <sub>x</sub> Ni <sub>4</sub> (RE: La, Pr, Nd, Sm, Gd, x=0.6, 1.0) hydride
15:30-16:00	Coffee break		
16:00-16:20	Ngene Peter The Netherlands M1 Oral Combined effects of nanoconfinement and catalysis on the hydrogen sorption properties of LiBH <sub>4</sub>	Krkluš Ivana Germany M2 Oral Desorption Studies of H <sub>2</sub> and D <sub>2</sub> Physisorbed on Porous Materials	Koudriachova Marina United Kingdom F2 Oral Neutron diffraction study of BCC alloys containing ferrovandium
16:20-16:40	Verdal Kristina USA M1 Oral Alkali and Alkaline-Earth Metal Dodecahydro-Closo-Dodecabo rates: Probing Structural Variations via Neutron Vibrational Spectroscopy	Gao Jinbao The Netherlands M2 Oral Enhanced hydrogen sorption properties of NaAlH <sub>4</sub> by confinement in nanoporous carbon	Walton Allan United Kingdom F2 Oral The Use of 3-D Laser Confocal Microscopy to Image Metal - Hydrogen Interactions
16:40-17:00	Harris Adam Canada M1 Oral Thermal Conductivity	Hirscher Michael Germany M2 Oral The Nature of Hydrogen	Ravnsbæk Dorthe B. Denmark F2 Novel metal borohydrides – crystal

	Characterization of Metal Hydrides	Adsorption in MOFs	structures, thermal decomposition and reactivity
17:00-17:30	Poster summaries	Poster summaries	Poster summaries
17:30-19:30	<b>Poster session 2</b>		

<b>Wednesday 21.07</b>			
	<b>Chair: H.Figel</b>	<b>Chair: M.Latroche</b>	<b>Chair: M.Mintz</b>
9:00-9:20	<p><b>Skipov Alexander</b> Russian Federation F7 Invited <b>Nuclear Magnetic Resonance Studies of Atomic Motion in Borohydrides</b></p>	<p>Uchida Hirohisa Japan M2 Oral Reaction Kinetics of a FeTi Alloy with Nano-Structured Surface Layers</p>	<p><b>Machida Akihiko</b> Japan M3 Invited <b>Properties of metal hydrides under high pressure studied using synchrotron radiation x-rays</b></p>
9:20-9:40		<p>Callini Elsa Italy M2 Oral Hydrogen Sorption in Magnesium Nanoparticles decorated by Transition Metals</p>	
9:40-10:00	<p><b>Zidan Ragaiy</b> USA F7 Invited <b>Developing Novel Materials and Methods for Hydrogen Storage</b></p>	<p>Rud Alexander Ukraine M2 Oral Effect of Different Carbon Allotropies on the Synthesis of Magnesium Hydride by the Reactive Ball Milling in Hydrogen</p>	<p>Evan Gray Australia A1 Oral Hydrogen storage for stationary and portable electricity supply</p>
10:00-10:20			<p>de Rango Patricia France A1 Oral A MgH<sub>2</sub> tank – PEM-FC coupling</p>
10:20-10:50	Coffee break		
10:50-11:10	<p><b>Akiba Etsuo</b> Japan F7 Keynote <b>Synthesis of Mg-Ti alloys with HCP, FCC, BCC structures and their hydrides with FCC structure</b></p>	<p>Lohstroh Wiebke Germany M2 Oral Tailoring Thermodynamics in NaAlH<sub>4</sub> - activated carbon composites</p>	<p>Didyk Alexander Russian Federation M3 Oral Depth distributions of D<sup>+</sup> ions implanted into some pure metals or D atoms introduced into diluted Pd-alloys and measured by RBS (ERDA) method</p>
11:10-11:30		<p>Chen Jun China M2 Oral The Combination Importance of Nanostructures and Lightweight Materials for Efficient Hydrogen Storage</p>	<p>Hirao Naohisa Japan M3 Oral Synthesis and characteristics of hcp iron hydride at high pressure</p>
11:30-11:50	<p>Pivak Yevheniy The Netherlands F7 Oral Hydrogen storage in the</p>	<p>Sahara Ryoji Japan M2 Oral Binding Energy Estimation of</p>	<p>Yartys Volodymyr Norway M3 Oral High pressure in situ diffraction</p>

	quaternary $Mg_{1-x-y}Ti_xAl_yH_z$ system as studied by Hydrogenography	Hydrogen Storage Materials by All-Electron Mixed-Basis Program TOMBO	studies of the metal-hydrogen systems
11:50-12:10	Graetz Jason USA F7 Oral Low Energy Regeneration of Aluminium Hydride	Jain Pragya India M2 Oral Hydrogen in Mg-Ni thin films	Zotov Timur Russian Federation M3 Oral IMC hydrides with high hydrogen dissociation pressure
12:10-14:10	Lunch		
	<b>Chair: V.Yartys</b>	<b>Chair: M.Hirscher</b>	<b>Chair: V.Antonov</b>
14:10-14:30	Friedrichs Oliver Switzerland F7 Oral Diborane - The key to reversible hydrogen storage in borohydrides	Jepsen Julian Germany M2 Oral Economical and engineering scalability of complex hydrides as new promising hydrogen storage materials	Joubert Jean-Marc France F1 Invited Thermodynamic optimization of the system Pd-Rh-H-D-T
14:30-14:50	Mizuseki Hiroshi Japan F7 Oral Theoretical Study on Improved Hydrogen Storage Materials	Montone Amelia Italy M2 Oral The rate limiting step in the $H_2$ reaction of nanostructured catalysed magnesium	
14:50-15:10	Takasaki Akito Japan A1 Oral Electrochemical Properties of $Ti_{45}Zr_{38-x}Ni_{17+x}$ ( $0 \leq x \leq 8$ ) Quasicrystals Produced by Rapid-Quenching	Leiva Daniel Rodrigues Brazil M2 Oral Mechanochemical synthesis of $Mg_2FeH_6$ -based nanocomposites and the effects of different additives on its H-sorption properties	Andrievski Rostislav Russian Federation F1 Keynote Hydrogen in Nanostructured Materials
15:10-15:30	Soloveichik Grigorii USA A1 Oral Hydride fuel cells: from solid to liquid fuel	Yamane Aki Japan M2 Oral Cluster size dependence of hydrogen desorption from alkali metal hydride and ammonia	
15:30-16:00	Coffee break		
16:00-16:20	Isnard Olivier France F6 Invited Effect of interstitial elements and/or pressure on the magnetic properties of some iron rich intermetallic compounds	Liu Jian China M2 Oral Mechanochemical synthesis and characterization of aluminium hydride	Denys Roman Ukraine A4 Invited Effect of Mg on structure and thermodynamics of La-Mg-Ni hydrides synthesised by hydrogen metallurgy and studied by in situ diffraction
16:20-16:40		Jacob Isaac Israel M2 Oral Can Reduced Size of Metals Induce Hydrogen Absorption: $ZrAl_2$ Case	
16:40-17:00	Maekawa Hideki Japan	Mulas Gabriele Italy	Matsumura Yoshihito Japan

	F6 Oral Halide stabilized LiBH <sub>4</sub> : a room temperature lithium fast-ion conductor	M2 Oral Sorption properties of dispersed MBH <sub>4</sub> -MgH <sub>2</sub> (M=Na, Li) systems in nano-mesoporous scaffolds	F4 Oral Irradiation treatment effects on hydrogen storage alloy
17:00-17:30	Poster summaries	Poster summaries	Poster summaries
17:30-19:30	<b>Poster session 3</b>		

<b>Thursday 22.07</b>			
	<b>Chair: V.Somenkov</b>	<b>Chair: M.Dornheim</b>	<b>Chair: J.Graetz</b>
9:00-9:20	<b>Cantelli Rosario</b> Italy <b>F3 Keynote</b> A comprehensive study of ammonia borane by anelastic spectroscopy: hydrogen dynamics, structural phase transitions, isotope effects and nanoconfinement	Mulder Fokko The Netherlands M2 Oral Grain refinement, solubility limits, and low T hydrogen storage in TiF <sub>3</sub> catalyzed MgH <sub>2</sub>	Besedin Stanislav Russian Federation F1 Oral Novel Behaviour in Aluminium Hydride at High Pressures
9:20-9:40		Fursikov Pavel Russian Federation M2 Oral Interaction with Hydrogen of Highly Dispersed Magnesium Eutectic Alloys	Hagemann Hans Switzerland F1 Oral New fundamental Experimental Studies on Mg(BH <sub>4</sub> ) <sub>2</sub> and other borohydrides
9:40-10:00	<b>Blomqvist Andreas</b> Sweden <b>F3 Keynote</b> Classical diffusion of interstitial hydrogen revisited	Palmisano Valerio The Netherlands A2 Oral Optical Hydrogen Sensor based on the Elastic Clamping Effect	Hjorvarsson Bjorgvin Sweden F1 Oral The effect of film thickness on the thermodynamics of the hydrogen-vanadium thin films system
10:00-10:20		Paul-Boncour Valérie France A2 Oral Magnetocaloric effects in Y <sub>1-x</sub> R <sub>x</sub> Fe <sub>2-y</sub> M <sub>y</sub> (H,D) <sub>4.2</sub> compounds (R= Gd, Tb, Er; M=Al)	
10:20-10:50	Coffee break		
10:50-11:10	Khatamian Djamshid Canada F3 Oral Diffusion of Deuterium in Zr-2.5Nb Alloy under Neutron Irradiation	<b>Fruchart Daniel</b> France <b>F4 Keynote</b> Principles of so-called d-metal catalyst interfaces for very fast hydrogenation kinetics of magnesium	Tkacz Marek Poland F1 Oral Raman and X-ray high pressure investigations on Terbium and Dysprosium trihydrides
11:10-11:30	Bönisch Matthias Austria F3 Oral Stabilization of Lattice Defects in HPT-deformed Palladium Hydride		Bloch Joseph Israel F1 Oral The effect of hydrogen on the electrical resistivity of iron-vanadium alloy thin films
11:30-11:50	Rongeat Carine Germany F5 Oral New insights into the catalytic		Luo Weifang USA F5 Oral Thermodynamic and kinetic

	mechanism of H <sub>2</sub> sorption in NaAlH <sub>4</sub>		characterization of H-D exchange on β-metals
11:50-12:10			
12:10-14:10	Lunch		
14:30-17:30	Sightseeing tour		
19:00	Symposium Dinner		

**Friday 22.07**

	<b>Chair: S.Mitrokhin</b>	<b>Chair: T.Sakai</b>	<b>Chair: V.Yartys</b>
9:00-9:20	<p align="center">Tomaz Apih Slovenia F3 Oral</p> <p>Hydrogen dynamics in icosahedral and amorphous Zr-based alloys by diffusion and fast field cycling nuclear magnetic relaxation methods</p>	<p align="center">Saitoh Hiroyuki Japan F5 Oral</p> <p align="center">Hydrogenation kinetics of aluminium under high pressure and high temperatures</p>	<p align="center">Konstanchuk Irina Russian Federation F5 Oral</p> <p align="center">Cooperative Effects at Formation and Decomposition of Magnesium Hydride in Powders</p>
9:20-9:40	<p align="center">Gemma Ryota Germany F3 Oral</p> <p>Atom probe analysis of hydrogen in V-6at%Fe film and Fe/V-6at%Fe multi-layered film</p>	<p align="center">Kato Shunsuke Switzerland F4 Oral</p> <p align="center">Hydrogen sorption mechanisms at various hydrides surfaces and towards synthetic fuels</p>	<p align="center">Matsumura Daiju Japan F5 Oral</p> <p align="center">Real-time Observation of Hydrogen Absorption Dynamics for Pd Nanoparticles</p>
9:40-10:20	<p align="center">Shamir Noah Israel F4 Keynote</p> <p align="center">Inhibition of Hydrogen Chemisorption on Uranium Surfaces by Traces of Water Vapor</p>		<p align="center">Züttel Andreas Switzerland F5 Invited</p> <p align="center">The Thermodynamics and Hydrogen Sorption Mechanism of Borohydrides</p>
10:20-10:50	Coffee break		
10:50-12:00	Closing session		
12:00-14:00	Lunch		