

Program for Delft Days on Magnetocaloric (DDMC 2011)

Oct. 24-25, 2011

Venue: TU Delft Aula congress center (Senaatzaal)

October 24 (Monday)

09.00 - 09.30 Registration, Tea or Coffee

09:30 - 09:45 Opening

Welcome address by Prof. Dr. Tim van der Hagen, Dean of Technical Sciences, Delft University of Technology

Workshop Session I

Chair: Oliver Gutfleisch IFW-Dresden

09:45 - 10:15 Magnetocaloric materials not only for cooling applications
E. Brück – TU Delft

10:15 - 10:45 Phase transitions and magnetocaloric effects: an overview of work at Imperial College
K. Sandeman – Imperial College London

Break: 10:45 – 11:00

11:00 - 11:30 Methods and problems in the characterization of magnetocaloric materials
R. Burriel – University of Zaragoza

11:30 - 12:00 La-Fe-Si alloys: from fundamentals to applications
J. Moore – IFW-Dresden

12:00 - 14:00 Lunch break (van Hasselt zaal)

Workshop Session II

Chair: Carmen Vasile – INSA Strasbourg

14:00 - 14:15 The Performance of a Rotary Magnetic Refrigerator with Layered Beds of Spherical LaFeSiH
S. Russek – Astronautics

14:15 - 14:45 Thermodynamics of Active Magnetic Regenerators
T. Burdyny – University of Victoria

14:45 - 15:15 A high frequency rotary active magnetic regenerator device
K. Engelbrecht – Risø

Break: 15:15 – 15:30

15:30 - 15:45 The effect of unevenly spaced parallel plates in active magnetic regenerators
K.K. Nielsen – Risø

- 15:45 - 16:00 A 3D numerical model of a reciprocating parallel plate active magnetic regenerator (AMR) using OpenFOAM
P. V. Trevizoli – UFSC
- 16:00 - 16:15 Magnetocaloric elements with thermoelectric switches
P. Egolf – Yverdon
- 16:15 - 16:30 From first-order magneto-elastic to magneto-structural transition in $(\text{Mn,Fe})_2\text{P}_{0.5}\text{Si}_{0.5}$ compounds
N.H. Dung - TU Delft
- 16:30 - 17:00 Fe_2P -based magnetocaloric materials fabricated using drop synthesis method
M. Hudl – Uppsala University
- 17:00 - 17:15 Giant magnetocaloric effect and magneto-crystalline coupling
L. Caron – Uppsala University
- 18:00 *Dinner (Indonesian rice table) (Kronig zaal)*

October 25 (Tuesday)

Workshop Session III

Chair: Joao Amaral – Univ. Aveiro

09:00 - 09:30 Manganese iron pnictides for AMR
F. Seeler – BASF

09:30 - 10:00 Solid Hydrogenation (SH) Process for Massive $\text{La}(\text{Fe,Co,Mn,Si})_{13}\text{H}_x$ Parts
M. Katter – Vacuumschmelze

Break: 10:00 – 10:20

10:20 - 10:50 A Peltier cells differential calorimeter for the measurement of $C_p(\text{H};\text{T})$ and $\Delta S(\text{H};\text{T})$ of magnetocaloric materials
V. Basso - INRIM Torino

10:50 - 11:20 $\text{La}(\text{Fe,Si})_{13}$ magnetocaloric materials based on coarse rare earth product during purification
F.X. Hu – IOP Beijing

11:20 - 11:35 Numerical study of magnet designs for the second and third generations of active magnetic regenerators at POLO
J. A. Lozano – UFSC

11:35 - 11:50 Commercializing Magnetic Refrigeration
A. Pastore – Cambridge

12:00 - 14:00 *Lunch (van Hasselt zaal)*

14:00 - 16:00 Discussion sessions on standardization, IIR working party on Magnetocaloric refrigeration or Visit of laboratories at RID

16:00 - 17:00 *farewell drinks (Foyer 2)*

Poster Session (Monday all day and Tuesday morning)(Foyer 2)

- 1) The crystal and magnetic structure of the magnetocaloric compound $\text{FeMnP}_{0.5}\text{Si}_{0.5}$
Viktor Höglin, Univ. Uppsala.
- 2) Magnetic characterization of thin films Fe(Zr) amorphous alloys and changing T_C by loading Hydrogen, Atieh Zamani, Univ. Uppsala.
- 3) Direct measurements of the magnetocaloric effect in first order materials
J. A. Lozano, UFSC
- 4) Numerical Comparisons of Magnetocaloric Materials,
Tom Burdyny, University of Victoria
- 5) An Improved Rotary Permanent Magnet Refrigerator
Danny Arnold, University of Victoria
- 6) Magnetostructural transition and associated magnetocaloric effect in Ni–Mn–In–Co
J. Liu, IFW, Dresden
- 7) Alternative Routes to obtain Magnetocaloric $\text{LaFe}_{13-x}\text{Si}_x\text{H}_y$ Compounds
C.S. Teixeira, UFSC
- 8) Routes to controlling the thermal management in Magnetocaloric Manganites
J.Turcaud, Imperial College, London
- 9) Magnetic properties and magneto-caloric effect iron-rich $(\text{Mn,Fe})_{1.95}(\text{P,Si})$ compounds
Z.Q. Ou, Delft University of Technology
- 10) Magnetostructural map of the $(\text{Mn,Fe})_3(\text{Si,P})$ system
J Vieira Leitão, Delft University of Technology
- 11) Magnetocaloric effect in metal-organic frameworks
Romain Sibille, Nancy Université
- 12) Investigation of the magnetocaloric properties of $\text{Y}_{1-x}\text{R}_x\text{Fe}_2(\text{H,D})_{4.2}$ compounds (R= rare earth)
V. Paul-Boncour, Nancy Université