

Delft Days on Magnetocalorics

DDMC 2013

Oct. 28-29, 2013

TU Delft Aula congress center
Mekelweg 2, Delft



October 28 (Monday)

08:30 - 09:15 Registration

09:15 - 09:30 Opening address by
Dr.Ir. Wim van Saarloos, director of FOM.

Session Monday-I

Chair: Ekkes Brück

09:30 - 10:00

The performance of a rotary active magnetic refrigerator
N. Pryds – DTU Risø

10:00 - 10:30

An approximate approach to determine AMR performance
A. Rowe – Univ. Victoria

Coffee Break: 10:30 - 10:45

10:45 - 11:00

Should We Use “Isothermal Heat Input (Q_T)” Instead of ΔS_T as the Relevant Magnetocaloric Parameter?
R. Burriel – Univ. de Zaragoza

11:00 - 11:30

Damping the latent heat in MnFe(P,x) magnetocaloric materials
F. Guillou – TUDelft

11:30 - 12:00

Magnetocaloric Materials Design By Density Functional Theory
Z. Gercsi – Imperial College London

12:00 - 14:00 Lunch break + posters

Session Monday-II

Chair: Olaf Rogge

14:00 - 14:30

Magnetocrystalline Anisotropy and the Magnetocaloric Effect in Fe_2P
L. Caron – TUDelft

14:30 - 14:45

Si site preference in $Mn_{1.25}Fe_{0.70}P_{1-x}Si_x$ Compounds
X.F. Miao – TUDelft

14:45 - 15:00

Direct measurement of the magnetocaloric effect in MnFe(P,X) (X= As, Ge, Si)
Yibole – TUDelft

15:00 - 15:30

Influence of Magnetic Field on Nucleation of Thermally-induced Phase Transition in $La(Fe_{0.88}Si_{0.12})_{13}$
A. Fujita – Tohoku Univ.

15:30 - 15:45

Improvement of the Measurement Techniques for the Industrialization of LaFeSi Magnetocaloric Alloys
A. Barcza – VAC

15:45 - 16:00

Magnetic Refrigeration – Proposed Delta T measurement system to promote data sharing
T. Lorkin – Cooltech

Coffee Break: 16:00 - 16:15

Session Monday-III

Chair: Oliver Gutfleisch

16:15 - 16:45

Strain-mediated Magnetoelectric and Magnetocaloric Effects in Oxide Heterostructures
X. Moya – Cambridge Univ.

16:45 - 17:00

Inverse Magnetocaloric Effect in Epitaxial Ni-Mn-based Films
R. Niemann – IFW Dresden

17:00 - 17:15

Magnetic and Magnetocaloric Effect of Epitaxial Ni-Mn-Sn Thin Films
I. Dincer – Ankara Univ.

17:15 - 17:30

Hall Probe Imaging of Magnetocaloric $LaFe_{13-x}Si_x$
L. F. Cohen – Imperial College London

19:00 Dinner

Meijeshuis – Oude Delft 112

October 29 (Tuesday)

Workshop Session IV

Chair: Luana Caron

09:00 - 09:30

Recent Developments in Magnetocaloric Materials

O. Gutfleisch – TU Darmstadt

09:30 - 10:00

Tuning the metamagnetism of an antiferromagnetic metal

J. Staunton – Warwick Univ.

10:00 - 10:15

Curie Temperature influence on the magnetic entropy change of 1st and 2nd order magnetocaloric materials

J. H. Belo – Univ. Porto

10:15 - 10:30

(La,Ce)(Fe,Mn,Si)₁₃H_x Materials Produced Via Gas Atomization Process

C. Mayer – Erasteel

Break: 10:30 - 10:45

Workshop Session V

Chair: Andrew Rowe

10:45 - 11:15

Magnetic Refrigeration at the University of Ljubljana

A. Kitanovski – Univ. of Ljubljana

11:15 - 11:30

Thermomagnetic Generator

T. Christiaanse – TUDelft

11:30 - 12:00

Direct Magnetocaloric Characterization in Operating Conditions

G. Porcari – Univ. Parma

12:00 - 14:00 Lunch + Posters

Workshop Session VI

Chair: Nini Pryds

14:00 - 14:15

Characterization techniques developed for quality control of first order magnetocaloric materials

L. Zhang – BASF

14:15 - 14:30

Progress in the scale-up of MnFePSi magneto-caloric materials

F. Dötz – BASF

14:30 - 14:45

The Performance of MnFePAs in a Magnetic Refrigeration System

S. Jacobs – Astronautics

14:45 - 15:00

Hysteresis and magnetostriction measurements on sintered La-Fe-Co-Si ring shaped samples

R. Grössinger – TU Wien

15:00 - 16:00 farewell drinks

Poster Session

[01] Thermal Imaging and Measurement Techniques Applied to Magnetocaloric Materials Research

J. S. Amaral – CICECO & Univ. Aveiro

[02] Developing a magnetocaloric domestic heatpump

Christian R. H. Bahl – DTU Risø

[03] Reversible hydrogen diffusion in $\text{LaFe}_{13-x}\text{Si}_x\text{H}_y$ driven by large spontaneous magnetostriction

O. Baumfeld – IFW Dresden

[04] Experimental Characterization of Layered $\text{MnFeP}_{1-x}\text{As}_x$ AMRs

O. Campbell – UVic

[05] Microscopic Theory of Magnetism in Magnetocaloric Material $\text{Fe}_2\text{P}_{1-x}\text{T}_x$ (T = B and Si)

E. K. Delczeg-Czirjak – Uppsala Univ.

[06] First principles study of electronic and magnetic properties of ReAs (Re = Sm, Eu, Gd, Tb) compounds

Yahiaoui Ihab Eddine – Univ. Sidi Bel Abbes

[07] Magnetic and Magnetocaloric Properties of New Mn-based Alloys with T_C Above Room-Temperature

L. Eichenberger – Univ. Lorraine

[08] Generalized Magnetocaloric Properties of Ni-Mn-In and Ni-Mn-In-Co Systems

T. Gottschall – TU Darmstadt

[09] Magneto-Structural Studies of the $\text{Mn}_{2-x}\text{Fe}_x\text{P}_{0.7}\text{Ge}_{0.3}$ Compounds

L. Hawelek – Univ. Silesia

[10] A Hybrid-exchange Density Functional Study of $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ as a Candidate Material for Magnetic Refrigeration

R. Korotana – Imperial College London

[11] Optimization of silicon and carbon in the magnetocaloric $\text{La}(\text{Fe}, \text{Co}, \text{Si})_{13}$ compounds

Yi Long – Univ. of Science and Technology Beijing

[12] A Preisach Approach To Modelling Hysteresis In $\text{MnFe}(\text{P}, \text{As})$

L. von Moos – DTU Risø

[13] Regenerator Housing Impact on AMR Performance

Kaspar K. Nielsen – DTU Risø

[14] Magnetocaloric Materials for Above Room Temperature Applications

A. Patissier –

ICMPE/CMTR/UPEC/CNRS

[15] An Effect of Mn Addition on Magnetocaloric Properties of the $\text{LaFe}_{11.8}\text{Si}_{1.2}$ Alloy

M. Polak – Institute of Non-Ferrous Metals

[16] Optimizing Polymer-Bonded $\text{La}(\text{Fe}, \text{Si})\text{H}_x$ Heat Exchangers

I. A. Radulov – TU Darmstadt

[17] Co-based Ferromagnetic Nanostructures for Potential Biomedical Applications

C. Rizal – Univ. of Victoria

[18] Optimizing Magnetocaloric Effect in $\text{MnFe}(\text{Si}, \text{P})$

Prasenjit Roy – Radboud Univ. Nijmegen

[19] Mathematics and Mechanics in Search of New Low Hysteresis Material

Vijay Srivastava - GE

[20] Study of Y and Ba Substituted Lanthanum Manganites

George Tonzlis – Aristotle Univ. Thessalonik

[21] Thermodynamics with external and internal magnetic field quantities

Didier Vuarnoz – Univ. of Applied Sciences of Western Switzerland

[22] Magneto-Structural Studies of the $\text{Mn}_{2-x}\text{Fe}_x\text{P}_{0.7}\text{Ge}_{0.3}$ Compounds

P. Włodarczyk – Univ. Silesia