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 (Qₜ)” Instead of ΔSₜ 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 Fe₂P
L. Caron – TUDelft

14:30 - 14:45
Si site preference in Mn₁₂₅Fe₀₇₅P₁₋ₓSiₓ 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(Fe₀₈₈Si₀₁₂)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 Gutfeisch

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 LaFe₁₃ₓSiₓ
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)$_{13}$H$_x$ 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

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<td>[02]</td>
<td>Developing a magnetocaloric domestic heat pump</td>
<td>Christian R. H. Bahl – DTU Risø</td>
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<td>[03]</td>
<td>Reversible hydrogen diffusion in LaFe_{13-x}Si_{x}H_y driven by large spontaneous magnetostriction</td>
<td>O. Baumfeld – IFW Dresden</td>
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<td>[04]</td>
<td>Experimental Characterization of Layered MnFeP_{1-x}As_{x} AMRs</td>
<td>O. Campbell – UVic</td>
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<td>[05]</td>
<td>Microscopic Theory of Magnetism in Magnetocaloric Material Fe_{2-y}P_{1-x}T_x (T = B and Si)</td>
<td>E. K. Delczeg-Czirjak – Uppsala Univ.</td>
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<td>[06]</td>
<td>First principles study of electronic and magnetic properties of ReAs (Re = Sm, Eu, Gd, Tb) compounds</td>
<td>Yahiaoui Ihab Eddine – Univ. Sidi Bel Abbes</td>
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<td>[07]</td>
<td>Magnetic and Magnetocaloric Properties of New Mn-based Alloys with T_c Above Room-Temperature</td>
<td>L. Eichenberger – Univ. Lorraine</td>
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<td>[09]</td>
<td>Magneto-Structural Studies of the Mn_{2-x}Fe_xP_{0.7}Ge_{0.3} Compounds</td>
<td>L. Hawelek – Univ. Silesia</td>
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<td>[10]</td>
<td>A Hybrid-exchange Density Functional Study of La_{1-y}Ca_yMnO_3 as a Candidate Material for Magnetic Refrigeration</td>
<td>R. Korotana – Imperial College London</td>
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<td>[11]</td>
<td>Optimization of silicon and carbon in the magnetocaloric La(Fe,Co,Si)_{13} compounds</td>
<td>Yi Long – Univ. of Science and Technology Beijing</td>
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<td>[12]</td>
<td>A Preisach Approach To Modelling Hysteresis In MnFe(P,As)</td>
<td>L. von Moos – DTU Risø</td>
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<td>[15]</td>
<td>An Effect of Mn Addition on Magnetocaloric Properties of the LaFe_{11.8}Si_{1.2} Alloy</td>
<td>M. Polak – Institute of Non-Ferrous Metals</td>
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<td>[16]</td>
<td>Optimizing Polymer-Bonded La(Fe,Si)H_x Heat Exchangers</td>
<td>I. A. Radulov – TU Darmstadt</td>
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<td>[17]</td>
<td>Co-based Ferromagnetic Nanostructures for Potential Biomedical Applications</td>
<td>C. Rizal – Univ. of Victoria</td>
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<td>[18]</td>
<td>Optimizing Magnetocaloric Effect in MnFe(Si,P)</td>
<td>Prasenjit Roy – Radboud Univ. Nijmegen</td>
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<td>[20]</td>
<td>Study of Y and Ba Substituted Lanthanum Manganites</td>
<td>George Tonozlis – Aristotle Univ. Thessalonik</td>
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<td>[21]</td>
<td>Thermodynamics with external and internal magnetic field quantities</td>
<td>Didier Vuarnoz – Univ. of Applied Sciences of Western Switzerland</td>
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<td>[22]</td>
<td>Magneto-Structural Studies of the Mn_{2-x}Fe_xP_{0.7}Ge_{0.3} Compounds</td>
<td>P. Wlodarczyk – Univ. Silesia</td>
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