

## Program DDMC 2019 – Monday 18 November 2019

9:00 – 9:45      *Registration*

9:45 – 10:00    *Opening address*

### Session 1: Monday 10:00-12:30, Chair: Ch. Bahl

10:00-10:30    F. Cugini, Parma, Italy, *Tuning the magnetic and magnetocaloric properties of austenitic  $Ni_{48}Mn_{34}(In,Sn)_{16}$  Heusler compounds*

10:30-11:00    B. Weise, Dresden, Germany, *In-situ investigation of the martensitic transformation in NiMnGa thin films*

11:00-11:30    *Coffee break*

11:30-12:00    M. Fries, TU Darmstadt, Germany, *Making a cool choice: the materials Library of magnetic refrigeration*

12:00-12:30    I. Batashev, TU Delft, The Netherlands, *Ab initio calculations of the magnetocaloric properties of Fe<sub>2</sub>P-based alloys*

12:30-14:00    *Lunch break + Posters*

### Session 2: Monday 14:00-16:00, Chair: M. LoBue

14:00-14:30    G. Allodi, Parma, Italy  
*<sup>55</sup>Mn NMR studies on giant magnetocaloric FeMnPSi alloys*

14:30-15:00    N. Maraytta, Jülich, Germany  
*Direct and indirect magnetocaloric effect of MnFe<sub>4</sub>Si<sub>3</sub> and Mn<sub>5</sub>Ge<sub>3</sub>*

15:00-15:30    X.F. Miao, Nanjing, China  
*In-situ TEM studies on the magnetocaloric transition of (Fe,Mn)<sub>2</sub>(P,Si)*

15:30-16:00    F. Guillou, Hohhot, China, *Search for compositional adjustments in Eu<sub>2</sub>In and complementary studies in FeMn(P,Si)*

16:00-16:30    *Coffee break*

### Session 3: Monday 16:30-18:30, Chair: L. Caron

16:30-17:00    C. Bahl, DTU, Denmark, *Development of a magnetocaloric heat pump towards an innovative multi source heat pump system*

17:00-17:30    F. Scheibel, TU Darmstadt, Germany, *Exploiting thermal hysteresis by using a multi-stimuli cooling cycle – concept and possible materials*

17:30-18:00    A. Gràcia-Condal, University of Barcelona, Spain, *Caloric and multicaloric effects in metamagnetic Ni-Mn-In under uniaxial stress and magnetic field*

18:00-18:15    H. Vieyra, Vacuumschmelze, Germany, *Effect of hysteresis on the magnetocaloric properties of LaFeSi alloys for Cryogenic applications*

18:15-18:30    S. Lionte, UbiBlue, Strassbourg, France, *Mechanical and magnetocaloric characteristics of first order LaFeSi-based materials*

19:00            *Dinner*

## Program DDMC 2019 – Tuesday 19 November 2019

### Session 4: Tuesday 9:00-10:30, Chair: E. Brück

- 9:00-9:30 D. Dzekan, IFW Dresden, Germany, *Energy harvesting using thermomagnetic generators with magnetocaloric materials*
- 9:30-9:45 L. Beyer, Dresden, Germany, *Optimizing the fabrication of magnetocaloric composite wires with different magnetocaloric core materials*
- 9:45-10:00 K. Rajamani, University of Twente, The Netherlands, *Experimental investigation of magnetic pumping for magnetocaloric refrigerator applications*
- 10:00-10:15 J.A. Lozano, University of Santa Catarina, Brazil, *MagChill: Development of an air conditioner operated by a magnetic refrigeration unit*
- 10:15-10:30 D. Bessas, ESRF, France, *Inelastic X-ray scattering for Magneto-Caloric Compounds*
- 10:30-11:00 *Coffee break*

### Session 5: Tuesday 11:00-12:30, Chair: T. Gottschall

- 11:00-11:30 S. Ahmim, ENS Paris, France, *A La-Fe-Si based thermo-magnetic generator*
- 11:30-12:00 N. Sun, Shenyang, China, *Microstructure, mechanical and magnetocaloric properties of bulk  $La_{0.9}Ce_{0.1}Fe_{11.7-x}Mn_xSi_{1.3}$  hydrides*
- 12:00-12:15 Y. Ouyang, Ningbo, China, *A high throughput study of magnetocaloric materials: gradient solidification applied to La-Fe-Si*
- 12:15-12:30 C.D. Christiansen, DTU, Denmark, *Freeze-casting of monolithic regenerators with micro-channels and varying Curie temperatures for magneto-caloric compounds*
- 12:30-14:00 *Lunch break + Posters*

### Session 6: Tuesday 14:00-16:00, Chair: N.H. van Dijk

- 14:00-14:30 T. Gottschall, Dresden, Germany, *Advanced characterisation of magnetocaloric materials in pulsed magnetic fields*
- 14:30-15:00 X. You, TU Delft, The Netherlands, *Synchrotron experiments on LaFeSi alloys*
- 15:00-15:30 L.M. Moreno-Ramirez, University of Sevilla, Spain, *When actual effects look like artifacts: deconvolution of the concurrent transitions in Ni-Mn-In Heusler alloys*
- 15:30-15:45 R. Skini, Uppsala University, Sweden, *Large magnetocaloric effect at room temperature in  $Pr_{0.64}Sr_{0.36}MnO_3$  manganite*
- 15:45-16:00 L. Caron, Bielefeld University, Germany, *Pressure effect on the magneto-structural phase transition in  $Mn_3CuN_{0.75}C_{0.25}$*
- 16:00 Closing remarks
- 16:00-17:00 *Farewell drinks*

**Posters DDMC 2019 – Monday 18 & Tuesday 19 November 2019**

- P1** H. Ben Khlifa, F. Ayadi, W. Cheikhrouhou-Koubaa, G. Schmerber,  
*Screening of the synthesis route on the structural, magnetic and magnetocaloric properties of  $La_{0.6}Ca_{0.2}Ba_{0.2}MnO_3$  manganite: A comparison between solid-solid state process and a combination polyol process and Spark Plasma Sintering*
- P2** L. Beyer, T. Gottschall, B. Weise, A. Funk, A. Waske, M. Krautz,  
*Thermal performance of magnetocaloric composite wires in pulsed magnetic fields*
- P3** S. Dalvi, M. Shahi,  
*Numerical analysis of magneto-caloric effect within a circular annulus*
- P4** F. Erbesdobler, C.R.H. Bahl, R. Bjørk, and K.K. Nielsen,  
*Spatial and temporal characterization device for magnetocaloric effect and phase transitions*
- P5** S. Ghorai, R. Skini, S. A. Ivanov, P. Svedlindh,  
*Tuning the magnetocaloric effect towards room temperature by B-site doping in the perovskite  $La_{0.8}Sr_{0.2}MnO_3$*
- P6** B. Huang, N.H. van Dijk, E. Brück,  
*A magnetic heat pump prototype for experimental purpose and its multi-layer regenerator bed extension plan*
- P7** J. Liang, C.D. Christiansen, K. Engelbrecht, K.K. Nielsen, R. Bjørk, C.R.H. Bahl,  
*Thermodynamic characterization of freeze-cast regenerators*
- P8** K. Löwe, H. Vieyra, A. Barcza, M. Katter,  
*Fast measurement of adiabatic temperature changes in LaFeSi-based alloys at cryogenic temperatures*
- P9** M. Maschek, X. You, N. van Dijk, E. Brück,  
*Minimization of impurity phases in MnFePSi*
- P10** K. Navickaitė, J. Liang, C.R.H. Bahl, K. Engelbrecht, S. Wieland,  
*Experimental performance of passive regenerators with nature-inspired flow structure*
- P11** K.K. Nielsen, F. Erbesdobler, C.R.H. Bahl, R. Bjørk  
*Detailed isofield calorimetry of  $La(Fe,Si,Mn)H$  revealing localized variation in phase transitions*
- P12** D. Nguyen Ba, L. Becerra, N. Casaretto, M. Marangolo, M. LoBue,  
*Growth temperature dependence of phase transformation and of entropy change in gadolinium thick films*
- P13** A. Pasko, S. Ahmim, D. Nguyen Ba, M. Trassinelli, M. Marangolo, M. Almanza, F. Mazaleyrat, M. LoBue,  
*Modelling of a  $La(Fe,Si)_{13}$ -based magnetocaloric material for a thermomagnetic generator*
- P14** I. A. Radulov, D. Yu. Karpenkov, A. Yu. Karpenkov, K. P. Skokov, O. Gutfleisch  
*Magnetocaloric heat exchangers*
- P15** J. Zemen, L. Beran, J. Zázvorka, M. Veis, F. Johnson, D. Boldrin, A. Mihai, B. Zou, L.F. Cohen,  
*Magneto-Optical Spectra of an elastocaloric Antiferromagnet: Theory and Experiment*

- P16** F. Zhang, X. You, N. van Dijk, E. Brück,  
*Magnetocaloric effect in the  $(Mn,Fe)_2(P,Si)$  system: from bulk to nano*
- P17** C. Frommen, C. Bahl, E. Delczeg, H. Fjellvåg, B.C. Hauback,  
*3D printed high entropy alloy micro and nano particles for magnetocaloric energy conversion HI-ENTROPY*
- P18** L.M. Moreno-Ramírez, J.Y. Law, V. Franco, A. Conde, I.A. Radulov, K.P. Skokov, O. Gutfleisch,  
*Analysis of the field dependence of magnetocaloric effect of  $La(Fe, TM, Si)_{13}$  ( $TM = Cr, Ni$ ) alloys*
- P19** S. Wieland, C. Breitzke,  
*Curie-temperature and geometrical variation of  $La(FeSi)_{13}$  heat exchangers produced via laser beam melting*