

Workshop Title : Magnetic Refrigeration: Materials & Systems for Commercialization

Participants :

	Name	Chair/Speaker	Affiliation
1	Dr. Steven L Russek	Chair	Astronautics Corporation of America
2	Mr. Olaf Rogge	Speaker /Panelist	BASF SE
3	Dr. Alexander Barcza	Speaker /Panelist	Vacuumschmelze GmbH
4	Dr. Kurt Engelbrecht	Speaker /Panelist	Risø DTU National Laboratory for Sustainable Energy
5	Dr. Asaya Fujita	Panelist	AIST- Chubu Green Magnetic Material Research Center
6	Prof. Tsuyoshi Kawanami	Panelist	Kobe University



Abstract :

• Objective

Provide a discussion concerning the state-of-the-art of magnetocaloric materials and magnetic refrigeration systems in the context of the pathway to commercialization for refrigeration applications

• Background

Magnetic Refrigeration technology is emerging from the laboratory (e.g., Demonstration of the first fully integrated appliance prototype using magnetocaloric heat pump at the Consumer Electronics Show in Las Vegas NV 2015). The presentations and panel discussion will provide a forum to share the state-of-the-art in technical development and address issues towards commercialization of products based on magnetocaloric materials and magnetocaloric heat pumps.

• Presentations

Presentation 1 (20 min): Mn-Fe based magnetocaloric materials, (Mr. Olaf Rogge – BASF)

Presentation 2 (20 min): La-Fe-Si based magnetocaloric materials, (Dr. Alexander Barcza - Vacuumschmelze GmbH)

Presentation 3: Magnetocaloric Heat Pump Systems (20 min), (Dr. Kurt Engelbrecht – Risø DTU National Laboratory for Sustainable Energy)



• **Panel Discussion (40 min)**

- *Includes the speakers from the Presentations above plus:*
 - *Magnetocaloric Materials – (Dr. Asaya Fujita – AIST-Chubu Green Magnetic Material Research Center)*
 - *Magnetocaloric Heat Pump Systems (Prof. Tsuyoshi Kawanami – Kobe University)*

Question 1: What are the significant challenges associated with commercializing the production of magnetocaloric materials (Materials Properties and Scale-up)?

Question 2: What are the significant challenges associated with commercializing magnetocaloric heat pump systems (System & Component Performance & Scale-up)?

Contact Information:

1. Name: _____ Dr. Steven L Russek _____
2. Affiliation/Organization name: _____ Astronautics Corporation of America _____
3. Address: _____ 4115 N. Teutonia Avenue, Milwaukee WI 53209 _____
4. E-mail address: _____ s.russek@astronautics.com _____