



MAGNETIC MATERIALS MAGNETIZING AND TESTING MAGNETIC SENSORS

Sept 06, 2019 Troy MI.

At Michigan State University MEC

**Magnetics Workshop for Automotive
Actuator, Motor and Sensor Applications**

Presented by:

**Alliance LLC
Magsys Magnet Systems
iC-Haus GmbH / iC-Embedded, LLC**

NOT FOR
PROFIT EVENT

**\$140.00
PER PERSON**

**OR \$600.00
PER COMPANY
OF 5 INDIVIDUALS**

Workshop Overview

This is a one day workshop tailored to bring an understanding of design, pricing and selection criteria for magnetic materials, equipment used for magnetizing and testing, and the design and application of magnetic sensors.

The workshop is formatted specifically for professionals in the Automotive industry. Presentations will include theory, practical design and application examples.



Magnetizing & Testing

MAGNETIZING EQUIPMENT

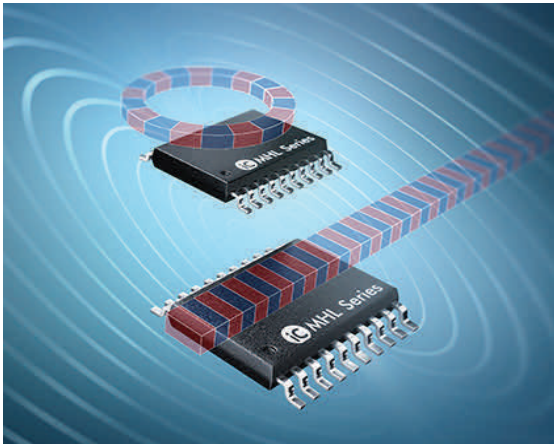
- MAGNETIZING CONFIGURATIONS
- TYPES OF MAGNETIZERS AND SUITABILITY
- DEMAGNETIZING AND CYCLING
- ELECTRONICS AND PROCESSING

MAGNETIZING FIXTURES

- TYPES AND PROCESSING REQUIREMENTS
- COOLING AND LIFE EXPECTANCY

TESTING EQUIPMENT

- REQUIREMENTS FOR MAGNET PROPERTIES
- TYPES OF INSTRUMENTS



Schedule:

- **9:00 AM** START OF WORKSHOP WITH BRIEF INTRODUCTION TO PARTICIPANTS, **SNACKS AND BEVERAGES SERVED**
- **9:30 AM** 2 HOUR PRESENTATION ON MAGNETIC MATERIALS, **15 MINUTE Q&A SESSION**
- **11:30 AM** BREAK FOR BUFFET LUNCH IN DINING ROOM
- **12:30 PM** 2 HOUR PRESENTATION ON MAGNETIZING & TESTING EQUIPMENT, **15 MINUTE Q&A SESSION AND BREAK**
- **2:40 PM** 2 HOUR PRESENTATION ON MAGNETIC SENSORS , **15 MINUTE Q&A SESSION. CONFERENCE ENDS AT 5 PM**

Magnetic Materials

PROPERTIES AND TERMINOLOGY

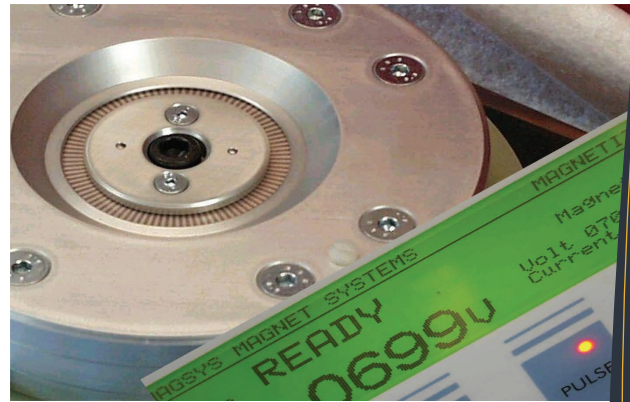
- HYSTERESIS LOOP
- REMANENCE, COERCIVITY & ENERGY PRODUCT
- TEMPERATURE CHARACTERISTICS
- CHEMICAL AND PHYSICAL PROPERTIES

SELECTION CRITERIA

- INDIVIDUAL MAGNET CHARACTERISTICS
- AVAILABILITY AND PRICING ISSUES
- GLOBAL TRENDS AND POLITICAL ISSUES

DESIGN CONSIDERATIONS

- APPLICATION AND ENVIRONMENTAL LIMITS
- REQUIRED SPECIFICATIONS ON DRAWINGS
- INFLUENCE OF FURTHER PROCESSING
- BASICS OF MAGNETIC MODELING



Magnetic Encoders

ADVANCES IN SINGLE CHIP ENCODERS

- MAGNETIC ENCODER IC'S
- OPTICAL REFLECTIVE ENCODER IC'S
- SINE/COSINE INTERPOLATION IC'S

ENCODER TECHNOLOGY SELECTION

- MAGNETIC OR OPTICAL
- ABSOLUTE OR INCREMENTAL
- COMMUNICATION INTERFACES
- MOTOR COMMUTATION

SYSTEM APPROACH TO ENCODER DESIGN

- DESIGN CONSIDERATIONS AND IMPROVING ACCURACY
- DESIGN AND VALIDATION TOOLS



Magnetics Workshop for the Automotive Industry

Single day and locally held workshop presented by:



Alliance LLC is an industry leader for permanent magnets and magnetic assemblies used in the automotive industry. Company is headquartered in Valparaiso Indiana with facilities located throughout the US and Mexico. Magnetic Rotors for commercial and military electric vehicles are produced at our facility in Indiana, while permanent magnets are produced in China and Vietnam. In business since 2001, we have been recognized by leading publications as one of America's fastest growing companies.

MAGSYS Magnet Systeme GmbH stands for tailor-made, sophisticated products and system solutions pertaining to the utilization of permanent magnets. Since 1997, the company has been valued by its customers throughout the world as a flexible and innovative partner for efficient and comprehensive solutions to challenges dealing with permanent magnets. These solutions include magnetizing systems and devices for permanent magnets, not only for manufacturers, but also for end-users.



iC-Haus GmbH is a leading independent German manufacturer of standard iCs (ASSP) and customized ASIC semiconductor solutions. As a specialist for mixed-signal integrated circuits and system-on-chip solutions, iC-Haus has been designing and manufacturing application-specific standard products (ASSPs) and custom ASICs for 35 years. We supply industrial, medical, and automotive applications with innovative, reliable, and FMEA-approved integrated circuits and microsystems. Specializing in Silicon for Motion®. iC-Haus offers encoder chips for off-axis and on-axis operation and for absolute or incremental measurements.

For additional information and any questions regarding this workshop, please contact any of the following:

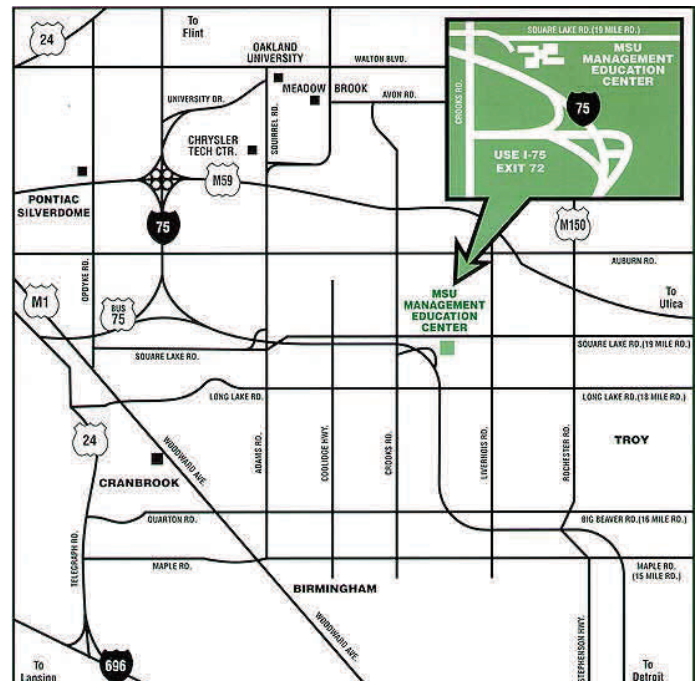
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Directions

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Phone 248-879-2456



DURING THE WORKSHOP, AND AT ALL TIMES, WE WILL HAVE WI-FI, REFRESHMENTS, COFFEE AND SNACKS FOR THE ATTENDEES. EXECUTIVE LEATHER CHAIR SEATING AND OTHER AMENITIES.