



PHM Society Short Course: PHM Fundamentals and Case Studies- From Monitoring/Sensing to Diagnosis, Prognosis and Use

The PHM Society will offer an updated *two-day intensive short course* titled **PHM Fundamentals and Case Studies** on PHM tools, methods, and applications on July 3-4 on site **right before the PHME16 conference**.

It is addressed to engineers, scientists, operations managers, educators, small business principals and system designers interested to learn how these emerging technologies can impact their work environment. The two days will cover the current state of the art in PHM technologies, sensors and sensing strategies, data mining tools, CBM+ technologies, novel diagnostic and prognostic algorithms as well as a diverse array of application examples/case studies.

This course follows from the first offering at the PHM14 conference in Fort Worth, TX with 48 attendees and ratings of 4/5. Those attendees' opinions on the best things about the 2014 course included:

- "Very high level of research information" - Industry engineer
- "Case studies with details of implementation" - Academic researcher
- "Format and content were well organized and binder is a good reference"
- "The communication of over-arching principles"- Industry engineer
- "The course provided the broad aspects of PHM"- Academic researcher
- "Presentations from experts and talks with practical examples"

The course was also successfully offered in 2015 at PHM15. See details at:

<http://www.phmsociety.org/events/conference/phm/15/short-course-phm-fundamentals>

As in 2014 and 2015, the course will be taught by recognized experts in the PHM field. There will be several social events and lots of time for networking.

A lecture (with Q&A), networking and workshop format with specialist experts will be include key features:

- a) Pre-course survey of participant background and course expectations
- b) Introduction talk with common definitions and standards
- c) PHM talks on needs analysis and metrics
- d) Theory talks with applications examples
- e) Applications talks with technology use examples
- f) Case studies with problem statement, methods investigated, methods applied, impacts
- g) Lessons learned plenary
- h) Small group workshops on PHM problem solving
- i) Coffee/tea (morning, mid-morning and mid-afternoon) and lunches provided
- j) Printed copy of slides to each attendee at the start of the course

After the two day event, participants should be able to:

1. Describe a baseline for defining the extent and capabilities of PHM, specifically needs and organization.
2. Identify specific details of PHM Applications (metrics, sensors, cost benefits) and PHM Methods (diagnostics, prognostics, data driven methods).
3. Identify issues and needs and a way forward including Continuing Professional Development.
4. Examine case studies of PHM applications across diverse domains to identify solutions and impacts.
5. Plan a PHM application in a mini workshop setting with expert group leaders.

Note: A PHM Society Certificate will be provided for nominally 1.4 Continuing Professional Development Units to each participant completing the course.

Add to your PHME16 conference registration or come just for the course. Limited space so sign up now. Full details at: www.phmeurope.org

Course Leaders: Dr. Jean-Baptiste Léger and Dr. Neil Eklund

Course Administrator: Jeff Bird jbird@magma.ca