Call for …

- **Papers**
- **Tutorials**
- **Data Challenge**
- **Panel Sessions**
- **Technical Session Chairs**
- **Doctoral Symposium Applications**
- **Technology Demos/ Product Showcase**

PHM Society '18

Sep 24-27, 2018
DoubleTree by Hilton,
Philadelphia Center City
Philadelphia,
Pennsylvania, USA

IMPORTANT DATES

Key Paper Dates:
Paper Submission Due
- ~~April 30, 2018~~
- **May 14, 2018**
Paper Review Feedback
- July 02, 2018
Final Papers Due
- August 01, 2018

Key Submission Dates:
Panel Session Topic
Proposals
- January 13, 2018
Technical Session
Proposals
- March 01, 2018
Doctoral Symposium
- May 07, 2018
Product Showcase/
Technology Demos
- May 25, 2018

10th Annual Conference of the Prognostics and Health Management Society September 24-27, 2018

- **PHM Short Courses: September 22-23, 2018**
- **Doctoral Symposium: September 24, 2018**
- **Industrial AI for PHM Workshop: September 24, 2018**
- **Technical Program: September 25-27, 2018**

http://www.phmconference.org

This 10th Annual Conference of the Prognostics and Health Management (PHM) Society will bring together the global community of PHM experts from industry, academia, and government in diverse application areas including energy, aerospace, transportation, automotive, manufacturing, and industrial automation. The conference will feature technical paper sessions, panel sessions, a doctoral symposium, and tutorials included for all registrants. A PHM data analysis competition will be carried out in parallel and the results will be presented during the conference. Leading companies and research institutions will exhibit their products and demonstrate their technologies throughout the event. An Industrial AI for

Conference Management Team

Conference Chairs
Brian A. Weiss
NIST
Greg Kacprzynski
Lockheed Martin

Local Chair
C. 'Nat' Nataraj
Villanova University

Conference Advisors
Karl Reichard
Penn State University
Carl Byington
PHM Design

Sponsorship
Michael Walker
D2K Technologies

Keynotes/Luminaries
Andy Hess
Hess PHM Group
Greg Kacprzynski
Lockheed Martin
Brian A. Weiss
NIST

Technical Program
Chair: Marcos Orchard
Univ. Chile
Chetan Kulkarni
SGT
Ian Jennions
IVHM Centre
Ravi Rajamani
dr2
Amy Grace
UTC Aerospace Systems

PHM Workshop will be held to discuss issues in using machine learning to enhance PHM capabilities. Social events will provide opportunities for participants to network with colleagues. The PHM Society will also offer separate, dedicated short courses focused on fundamental PHM concepts and techniques to occur before the start of the main conference.

A major differentiator for the PHM Society is its modern approach toward intellectual property rights. Authors retain copyright in their work while allowing the PHM Society to distribute their work through a Creative Commons License. As a result, all articles published by the PHM Society are available to the global PHM community via the internet for free and without any restrictions.

CALL FOR PAPERS

Prospective authors are invited to contribute full length, original, high-quality papers. The topics suggested by the conference can be categorized as analysis methods, asset-specific algorithms, prototype implementations, fielded systems, and business case analysis. Both research and industry contributions are welcomed. Submitted papers will be reviewed by experts based on the criteria of content, significance, technical validity, innovation, writing style, accuracy, clarity, simplicity and readability. For more information, please contact [Marcos Orchard](#).

Topics of Interest:
- Advanced Sensing & Embedded Devices
- Adaptive Control & Fault Accommodation
- Automotive Systems
- Autonomous / Robotic / Unmanned Systems
- PHM in Aviation (Commercial and Defense) Systems
- CBM Return on Investment & Business Case Analysis
- Cloud Analytics
- Corrosion
- Cybersecurity PHM
- Data Driven Approaches
- Decision Support Systems
- Detection, Diagnostics & Prognostics Methods
- Digital Information Flow through a Product Lifecycle

Kamal Medjaher
*École Nationale
d'Ingénieurs de Tarbes*
Bin Zhang
Univ. South Carolina
Zoleikha Abdollahi
Clemson University
Stephen Adams
Univ. of Virginia
Frank Ferrese
*Naval Surface Warfare
Center*

Proceedings
Anibal Bregon
University of Valladolid

Panel Sessions
David Siegel
Predictronics
Rhonda Walthall
UTC Aerospace Systems

PHM Data Challenge
Abbas Chokor
Seagate
Nicholas Propes
Seagate

Tutorials
Kai Goebel
NASA Ames

Short Course
Jeff Bird
TECnos
Ravi Rajamani
dr2
George Vachtsevanos
Georgia Tech

**Technology Demos/
Product Showcase**
Jim Larkin
Aerojet Rocketdyne

- Energy (e.g., Nuclear, Smart Grid, Wind)
- Enterprise-wide PHM Applications
- Human-centric PHM
- Marine, Mining, and Railway Applications
- Oil & Gas
- Physics of Failure & Model Based Prediction
- Predictive Analytics
- Smart Grid
- Smart Manufacturing
- Space Technologies and Systems
- Standards, Metrics, and Verification & Validation

CALL FOR PANEL SESSION SPEAKERS

Prospective panelists are invited to contribute to panel discussions with other speakers who have expertise in specific topics. Each panelist will provide remarks for no longer than 7 minutes and then participate in a Q&A session with the audience. Ideas for new panels are also welcome. For more information, please contact David Siegel or Rhonda Walthall.

Prospective Panel Topics Include:
- Academic/Education
- Aerospace PHM
- Automotive PHM
- Fielded Systems
- MEMS Technologies to Enable PHM
- Oil and Gas
- PHM Applications Deployment
- PHM for Health and Human Performance
- Railway PHM
- Manufacturing PHM
- Standards for PHM
- Theoretical Aspects of Prognostics
- Unmanned/ Autonomous Systems

CALL FOR TECHNICAL SESSION CHAIRS

New for 2018, the PHM Society is seeking individuals to 'champion' a specific topic, relevant to PHM, that can be realized into a technical paper session during the conference. Technical session chairs will be responsible for proposing a topic (which can be within or outside of the 'Call for Papers

Poster Session
Jamie Coble
University of Tennessee

Conference Career Fair
Abbas Chokor
Seagate

**Education &
Professional Dev**
Jeff Bird
TECnos
Karl Reichard
Penn State University

SWE Outreach
Kathryn Elliott
Rolls Royce

University Outreach
C. 'Nat' Nataraj
Villanova University
Peter Beling
University of Virginia

Doctoral Symposium
Jamie Coble
University of Tennessee

Student Activities
Turki Haj Mohamad
Villanova University

SAE Liaison
Rhonda Walthall
UTC Aerospace Systems

Conference Materials
Scott Clements
Lockheed Martin

Conference Finances
Karl Reichard
Penn State University

Topic Areas'), recruiting paper submissions within this topic area, identifying appropriately-qualified reviewers for submissions within this area, and leading the resultant technical session at the 2018 conference. All prospective papers should be submitted through the conference submission website and will undergo the same review process as papers not submitted for a specific technical session. Please contact either Brian A. Weiss or Greg Kacprzynski for further information.

CALL FOR PHM DATA CHALLENGE PARTICIPANTS
The PHM Society invites participants to compete in a data challenge to find the best solution to a PHM-related problem. Collaboration is encouraged. The top scoring teams will be invited to present their solution at the conference. For more information, please contact Abbas Chokor or Nicholas Propes.

CALL FOR TUTORIALS
The PHM 2018 Conference tutorials should provide a comprehensive introduction to the state-of-the-art in the tutorial's topic. Proposed tutorials must address the interests of a varied audience: beginners, developers, designers, researchers, practitioners, and decision makers who wish to learn a given aspect of prognostic health management. For more information, please contact Kai Goebel.

Tutorial Topics of Interest:
- Asset Health Management
- CBM Policies
- Cost-Benefit Analysis
- Diagnosis and Fault Isolation Methods
- Life Cycle and Risk Management Methodologies
- PHM System Design and Engineering
- Standards and Methodologies

CALL FOR TECHNOLOGY DEMONSTRATIONS & PRODUCT SHOWCASE
The PHM Society invites participants to show off their monitoring, diagnostic, and/or prognostic engineering approaches through PHM technology demonstrations and the product showcase.

Website Development
Scott Clements
Lockheed Martin

Publicity
Neil Eklund
Analatom
Scott Clements
Lockheed Martin

The concept of the technology demonstrations is to offer a true "hands-on" learning experience for attendees. Multiple demonstrations will be given as brief tutorials to small groups over a two-day period. Each demo will last for 30 – 60 minutes, where attendees will be encouraged to actively participate.

New for 2018, the product showcase track offers the opportunity for companies to advertise their products and/or services to the PHM Society attendees. Showcase participants are limited to 10 minute presentations and may only demonstrate their capabilities via computer/tablet, projector, and microphone. Participants may give demonstrations so long as they fit within their 10-minute timeslot. Showcase presentations are not intended to be interactive and participants are encouraged to network with audience members after their showcase.

For more information on either the technology demonstrations or the product showcase, please contact Jim Larkin.

Tech Demo Topics of Interest:
- Certification and Validation Techniques for Health Management Applications
- Fielded Prognostic or Advanced Diagnostic Systems
- Innovative System Maintenance Approaches
- Monitoring, Diagnostic, and/or Prognostic Hardware/Software Technologies
- Rapid Aging Testing and Analysis Techniques
- Sensors and Sensor Integration for PHM
- System Identification Processes to Support PHM Goals

Please Note: Demonstration hardware, concepts, material, data, etc., must be cleared for public release prior to the conference.

CALL FOR DOCTORAL SYMPOSIUM APPLICATIONS
The PHM Society Doctoral Symposium will be held as a workshop on Monday, September 24. Full-time students are invited to submit their thesis ideas to the Doctoral Symposium. It provides an opportunity for graduate students to present their interests and plans at a formative stage in their research. The students will receive structured guidance from a panel of distinguished researchers as well as comments from

conference participants and fellow students in a collegial setting. For more information, please contact Jaime Coble.

INDUSTRIAL AI for PHM WORKSHOP
Artificial Intelligence (AI) is a cognitive science including pattern recognition, natural language processing, machine learning, deep learning, robotics, etc. It has broad impacts to future autonomous system. Industrial AI is a systematic discipline in using various machine learning techniques to improve the performance, productivity, reliability, and safety of an industrial system, and ultimately to achieve resilient intelligence.

This Workshop is organized to discuss the systematic issues in using machine learning to improve PHM capabilities. Some selected experts will give technical presentation about recent advances and trends of Industrial AI for PHM with applications. A panel which consists of these experts will also have open discussions with the audiences.
For more information, please contact Jay Lee.

SPONSORSHIP
Learn how you can support the PHM Society. Contact Michael Walker for more information.

Sincerely,

Brian A. Weiss and Greg Kacprzynski
General Chairs
Annual Conference of the PHM Society 2018

Visit us at www.phmsociety.org