1st International Workshop on Structural Health Monitoring for Railway System (2016)

CRRC Qingdao Sifang Co., Ltd , Qingdao, Shandong, China

October 12-14, 2016

Call for Papers

On October 12-14, 2016, the 1st International Workshop on Structural Health Monitoring for Railway Systems will be co-hosted by Stanford University, CRRC Industrial Institute Co., Ltd. and CRRC Qingdao Sifang Co., Ltd. in Qingdao. In Recent years, the Structure Health Monitoring Technology (SHM) has made significant progress for enhancing the safety and automating operation efficiency of different structures across multiple industries. There is a growing need for the SHM Technology to be applied in Railroad systems as well. This should elevate the operation efficiency and reliability of railway systems within the transportation industry in the 21st Century. The Workshop will invite representatives from international academia on SHM, renowned experts in railway and aviation application, and delegates from Chinese railway operators, research institutes, rolling stock manufacturers and universities. This invitation is to the international academia and industrial community, you are cordially invited to submit your abstract and participate in the Workshop. The Workshop will feature reviews of SHM growth and perspectives of future SHM applications to the railway industry.

The Workshop aims to assess state-of-the-art SHM technologies, and to discuss and identify key emerging technical breakthroughs and challenges. Potential applications of the techniques to the railway sector will be particularly emphasized. The Workshop is also intended to promote communication exchange and cross-fertilization between multiple disciplines.

The Organizing Committee will set up a review panel and secretariat office to collect and review the papers. The panel will select best papers for prizes and gifts to be awarded at the workshop. World-renown technical experts and prize winners will be invited for keynote/special presentations. Plenary discussions on the future direction of SHM and potential application of SHM to the railway industry will also be organized.

Collaborating with Stanford University, the Organizing committee will publish a proceeding of selected papers with the EI index and some papers will be published in Chinese academic periodicals. For detailed guidelines on submission, please visit: http://www.csrgc.com.cn/g4385.aspx

Chair：Wang Jun

Vice President, CRRC Corporation Limited

Co-Chair：Prof. Fu-Kuo Chang (Stanford University)

Department of Aeronautics and Astronautics Stanford University, Stanford CA 94305

1st International Workshop on Structural Health Monitoring for Railway Systems
Major Topics

1. Applications: Manufacturing/ Sustainability/ Design/ Intelligent Structures
- Rolling stock: high-speed train, urban transit vehicles, freight wagons, etc.
- Civil infrastructure: high-speed railway, freight railway, urban railway and subway railway, etc.

2．Sensors/ Actuators
- Novel sensors, sensors for extreme environments, fiber optics, piezoelectric, magneto-electric sensors, CNT sensors, micro/nano-sensors, etc.

3. Sensor Networks/ System Integration
- Bio-inspired sensor networks, remote and wireless communication, self-diagnostic networks, self-repairing and fault-tolerance networks, advanced manufacturing for structures with built-in sensors, hardware/software integration, durability/reliability of sensors and sensor network systems, etc.

4．Multifunctional Materials and Structures
- Self-sensing materials, energy harvesting and storage, structures with state awareness

5. Signal Processing/ Monitoring/ Diagnostics
- Advanced signal processing, statistical signal processing, data mining/fusion, innovative environmental compensation methods, baseline free methods, neural networks, etc.

6. Prognostics/ Health Management/ Condition-based Maintenance+
- Quality control manufacturing, life prediction, integrated structural health management, SHM-based condition assessment of critical structures, etc.

7．Modeling/ Simulations/ SHM-based Design+
- Global-local analyses, modeling of sensor/structural responses, manufacturing with sensor data, multiobjective design optimization, SHM-based design, etc.

8. Implementation/ Validation/ Certification
- Quantification techniques, probability of detection (POD), reliability methods, validation/certification processes, etc.

Key Dates

The website is now open for abstract submissions.

Call for papers	February 1, 2016
Abstract Submission Due	April 10, 2016
Notification of Acceptance	April 30, 2016
Final Paper Submission Deadline	July 15, 2016
Workshop	Oct. 12-14, 2016

For more information, please visit our website http://www.csrgc.com.cn/g4385.aspx
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2016 年第一届轨道交通结构健康监测国际研讨会

中车青岛四方机车车辆股份有限公司，中国 山东 青岛

2016 年 10 月 12-14 日

论文征集

2016 年 10 月 12-14 日，由美国斯坦福大学、中车工业研究院有限公司、中车青岛四方机车车辆股份有限公司在中国青岛联合举办"第一届轨道交通结构健康监测国际研讨会"，会议将邀请国际结构健康监测学术界代表和轨道交通、航空等相关应用领域知名专家参会，邀请中国铁路运营机构及科技机构、重要的主机厂、运营商和学术界代表参会。本次会议面向全球学术界和工业企业界发出热情邀请，邀请您为本次研讨会投稿、参会。会议主题：回顾结构健康监测技术发展，展望未来结构健康监测技术在轨道交通行业应用。

本次研讨会旨在评估领域最先进技术，讨论和识别新兴的关键技术突破与挑战，并探讨在轨道交通领域的应用。同时，促进多学科领域相互交流，共同发展。

组委会将设置论文评审专家组和秘书组，分别负责论文的收集、修订和评审；根据论文水平，设置一、二、三等奖，大会将会为论文获奖者提供奖励，以及在大会上演讲的机会。大会将邀请国际知名技术专家及论文获奖者进行主题演讲，并就未来结构健康监测技术发展在轨道交通中的应用进行讨论。

组委会同斯坦福大学合作，接收的优秀论文将纳入 EI 索引，同时将选部分优秀论文刊发在国内学术期刊。

论文提交指南信息请访问：<http://www.csrgc.com.cn/g4385.aspx>

会议主席：王军 中国中车股份有限公司 副总裁

会议特邀主席 Chang, Fu-Kuo 教授（斯坦福大学）

"第一届轨道交通结构健康监测国际研讨会"征文议题

1 应用：制造/可持续性/设计/智能结构
  —轨道车辆：高铁、城市轨道车辆、货运车辆等；
  —土木基建：高速铁路、货运铁路、城市轨道、地铁线路等
2 传感器/作动器
  —新型传感器，极端环境用传感器，纤维光学，压电，电磁传感器，碳纳米管传感器，微型/纳米传感器；
3 传感器网络/系统集成
  —仿生传感器网络，远程及无线通信，自诊断网络，误差及自修复网络，先进制造结构中的插入式传感器，硬件/软件集成，传感器及传感器系统的耐久性/可靠性等；
4 多功能材料和结构
  —自检测材料，能源获取和存储，结构状态意识；
5 信号处理/检测/诊断
  —先进的信号处理，统计信号处理，数据采集/处理，创新型环境补偿方法，自由基准线法，神经网络法等；
6 预测技术/健康管理/状态检修
  —质量控制制造，寿命预测，集成结构健康管理，关键结构的结构健康检测评估；
7 建模/模拟/结构健康检测设计
  —整体-局部分析，传感器/结构响应的建模，用于制造的传感器数据，多目标设计优化，结构健康检测设计等；
8 实现/确认/认证
  —量化技术，检测概率，可靠性方法，确认/认证过程等。

重要时间节点

用于论文摘要提交的网站已开通

论文摘要提交截止日期   2016.04.10

论文接受告知时间   2016.04.30

最终论文提交截止日期   2016.07.15

会议时间   2016.10.12-14

更多信息请访问网站，网址 http://www.csrgc.com.cn/g4385.aspx

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