

未来内燃机增压技术研讨会邀请函

尊敬的业界朋友：您好！

我们真诚邀请您参加 2013 年 7 月 1 日在北京由北京市内燃机学会和北京理工大学联合主办的“未来内燃机增压技术”研讨会。

车用内燃机的节能减排是世界各国都非常关注的问题，增压技术是实现节能减排的重要而有效的技术手段。随着对车辆节能减排的要求提高，对增压技术的发展也提出了新的要求。此次研讨会将邀请通用、福特、卡特彼勒、康明斯、霍尼韦尔、博格华纳等内燃机及零部件企业的权威专家，通过交流、研讨解国外先进和未来的车用内燃机对增压技术提出的新要求及增压技术的发展现状和趋势，为国内同行业的发展提供参考。

附件一为研讨会具体时间安排。

本次会议不收取注册费。住宿费及其它费用自理。

希望感兴趣的单位尽快回执（回执信息参见附件二）。

欢迎您的参与，如有任何不清楚的地方请随时来电垂询。

北京市内燃机学会

北京理工大学机械与车辆学院(代章)

2013 年 5 月 10 日

注意：专题讨论小组成员 (Panellists) 需要准备 2-4 个与议题相关的问题，并于 6 月 10 日前发给会务组 (qimx@bit.edu.cn)，会务组将把题目分发给参会人员以便提前准备讨论发言。

附件一

Programme of Events

<p>Sunday, 30th June</p>	<ul style="list-style-type: none"> • Registration, 10am –6pm, • BIT Turbomachinery lab tour 3–5pm • Reception dinner 5–8pm
<p>Monday, 1st July 8:10 – 11:30 a.m.</p>	<p><u>Session 1: Full Presentation</u></p> <ol style="list-style-type: none"> 1. Opening speech: Prof. Ma (10 mins) 2. Turbo matching and model based control (8:10–9am). Facilitator: Peter Hofbauer, Harold Sun • Two stage boost modeling, Yueyun Wang, GM • Advanced turbo technologies, Tom Grissom, BW 3. Bearing and rotor dynamics (9–9:50am). Facilitator: Harold Sun, Bob Griffith • Ball bearing development, Peter Davis, HW, • Oil free turbocharger, Prof. Luis San Andres 4. Aerodynamic development/analysis (9:50–10:40am). Facilitator: Chaochen Ma, Bob McMullen • Mixed flow turbine development, Hua Chen • Advanced turbo to support future engine technologies, Harold Sun 5. Design for durability and low noise radiation (10:40am–11:30am). Facilitator: Peter Davis, Bob Griffith • Turbo durability and reliability, Prof. Luis San Andres • Assessment of turbocharger NVH, Xiaozhen Sheng,
<p>12:00- 13:00 p.m.</p>	<p><u>Lunch</u></p>
<p>13:00 – 17:30 p.m.</p>	<p><u>Session 2: Panel discussion: system optimization</u></p> <ol style="list-style-type: none"> 1. Advanced aerodynamic performance to support future engines (1–1:50pm) Panelists: Chaochen Ma, Bob Griffith, Bob McMullen, Harold Sun, Hua Chen, Don Stanton, Ce Yang, Hong Zhang, Mingxu Qi, • High efficiency and wide operation range aero design for high EGR, power density, • Potential impact of hydraulic, mechanical or electric assisted turbo on aerodynamic design of turbochargers. 2. Trade-off between aero performance and durability (1:50–2:40pm) Panelists: Harold Sun, Bob Griffith, Luis San Andres, Hua Chen, Xin Shi, Steve Arnold, Jizhong Zhang, Hong He, Hang Wang • trade-off between performance and durability with real world applications and future engine combustion, control and

	<p>fuel economy improvement technologies,</p> <ul style="list-style-type: none"> • material for light weight, low cost and high temperature; mitigation of fatigue failure near resonance frequency speeds; classical assessment of HCF and LCF • Fluid structure interaction/forced response <p>3. Turbo matching, correlation with engine performance, control and automated calibration (2:40-3:30pm) Panelists: Yueyun Wang, Bob McMullen, Chaochen Ma, Don Stanton, Ruo Huang, Mingshan Wei, Zhiqiang Zhang, Linfu Guo</p> <ul style="list-style-type: none"> • Characterize turbo performance under high EGR, pulsed environment and operation range that is relevant to auto engine application; • Heat transfer impact on turbine flow bench test; • Better turbo flow bench/engine correlation to support Model based control. • Challenges for multi-stage turbocharging: modeling, transition, matching, and fast-warmup; <p style="text-align: center;">(30 min tea break)</p> <p>4. Bearing, rotor dynamics and other emerging technologies (4-4:50pm) Panelists: Peter Davis, Tom Grissom, Kehrwald, Jaeger, Hadler, Luis San Andres, Peter Hofbauer, Ruo Huang, Liaoping Hu, Hong Zhang, Junsheng Zhao, Hong He</p> <ul style="list-style-type: none"> • Issues with Start/stop operation, impact of thrust loading on bearing loss and turbine efficiency measurement • Compressor fouling/erosion; advanced compressor milling technologies; Turbocompound and exhaust heat recovery • Hydraulic, mechanical or electric assisted turbo technologies; • Vibration and noise problem? <p>5. Understand the emerging market (4:50-5:30pm) Panelists: Ruo Huang, Hang Wang, Weijian Han, Luis San Andres, Steve Arnold, Liaoping Hu, Jinguang Bi</p> <ul style="list-style-type: none"> • Duty cycles and durability in emerging market for HCF and LCF qualifications • Durability of turbocharger under high sulfur fuel/oil: VGT, sheet metal turbine, etc. Embrittlement of sulfur and H₂ • Low cost turbo, switching valve, and viable solution for emerging market
18:00 p.m.	Dinner
19:30	Departure for Tianjin, by bus

Attention: Panelists are required to prepare 2-4 questions that are appropriate for discussions on respective subjects. The questions need to be submitted to Dr. Mingxu Qi, (qimx@bit.edu.cn) before 6/1 and shared among all panelists before the forum.

附件二

“未来内燃机增压技术”研讨会回执

单 位				
地址/邮编				
参加人数				
姓 名	性 别	手 机	E-mail	
其他要求				

注意事项:

1. 烦请您于6月10日前将回执Email至我处，以下为我们的联系方式：
联系人：施新（010-68911373转808，13641385187，shixin@bit.edu.cn）
地 址：北京理工大学机械与车辆学院，邮编：100081