



The 3rd International Forum on Automotive Lighting (IFAL 2015, China)

IFAL@fudan.edu.cn
<http://www.ifal.net>

Overview of The 1st IFAL

- Regulations
- Testing/evaluation methods
- Designing
- Conventional light source and LED application
- Specific techniques



第一届中国国际汽车照明论坛 (2 0 1 3)

The First International Forum on Automotive Lighting (2013, China)

2013.6.19-6.21 中国·昆山 希尔顿逸林酒店

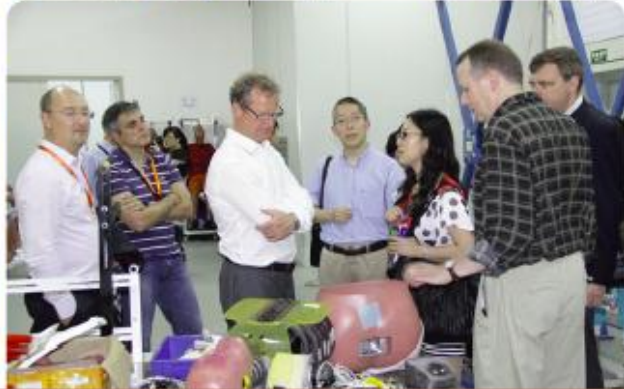
Jun.19th - 21th, 2013, Kunshan, China Doubletree by Hilton



Overview of The 1st IFAL

- 212 delegates
- 66 full papers
- 26 oral presentations





Attendees of the 1st IFAL

OEM	Baic	BJ Hyundai	Chery	China Faw Group
	CQ Chang'an	Dongfeng	Ford	Geely
	Greatwall	GZ Honda	Huachen	Jiangling
	Pan Asia	SAIC	Sinotruck	SH GM
	SH VW	Shenlong	Southeast	VW
Lighting suppliers	CZ Xingyu	Damao Varroc	Hella	HB Huayu
	HB Valeo	JS Huacheng	Koito	Marelli
Suppliers	Anrui	Changcheng	Chuangxing	Cybernet
	DEKRA	Dinghui	Diode	Everfine
	Evonik Degussa	Groupstar	Guang'ao	Honghan
	ISOQA	Jialong	KX	Lindian
	Mobis	Osram	Philips	Sicar
	Synopsys	Tianwei	Thermo Fiser	Tongming
	Weikai	Yi'ao	Yongjia	Zheshuo
Organizations	ACEA	BIT	CATARC	CIE
	CIES	CNMTC	DUT	FDU
	GTB	GRE	NCSIAPPQ	NMVIC
	NMVQSIC	OIS	PMTI	RCETSSL
	SAE	SALRI	TUD	UESTC

Overview of The 2nd IFAL

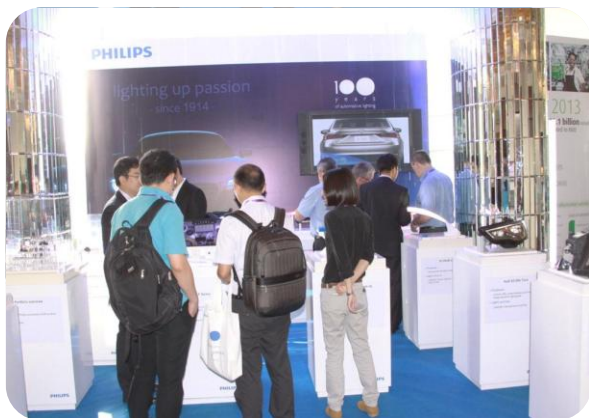
- Technology of advanced lighting systems
- Driver perception and behavior
- Regulation development
- Measurement technology



Overview of The 2nd IFAL

- 313 delegates
- 58 full papers
- 42 oral presentations





Attendees of the 2nd IFAL

OEM	SH Chang'an	Jiangling	Great Wall	SH VW	Ford
	Geely	Chery	Shenlong	BAIC	Jaguar Land Rover
	SAIC	BJ Hyundai	Dongfeng	Daimler	BJ Chang'an
	Southeast	Huachen	PSA	Pan Asia	CQ Chang'an
	Renault	SH Haima			
Lighting suppliers	AL	CZ Xingyu	Feile	Skoito	
	Koito	Valeo	Hella	Varrac	
Suppliers	Anrui	Changcheng	Chuangxing	Cybernet	DEKRA
	Dinghui	Diode	Everfine	Evonik Degussa	Bayer
	Groupstar	Guang'ao	Honghan	ISOQA	Jialong
	KX	Lindian	Mobis	Osram	Philips
	Sicar	Synopsys	Tianwei	Thermo Fiser	Tongming
	Weikai	Yiao	Yongjia	Zheshuo	GE
	Panasonic	Konica	Optics	Cree	Leybold
Organizations	JS ALPQJC	Jilin Univ.	Univ. of Michiga	GTB	CIE
	CATARC	USST	SISU	NMVIC	India ARA
	NCSIAPPQ	CQC	CNMTC	CIES	FDU
	NMVQSIC	Poland ARI			

Conference Material



Conference Material



序

汽车照明是保障汽车安全驾驶必不可少的重要组成部分，涉及多个学科。车灯设计是以安全性能为基础，不仅要考虑成本和节能性，还需利用光学、热学、电学、结构、材料等多学科知识。随着汽车智能化水平的提高，汽车照明需进一步整合传感器、通讯、微电子和自动控制技术以及与人因功能的结合。

中国作为汽车销量第一大国，其汽车照明技术水平与发达国家相比却存在较大差距，拥有自主知识产权的关键核心技术数量有限，创新技术寥寥可数。国内汽车照明技术的落后也限制了国内汽车照明标准的制定，国家标准几乎完全参照ECE法规，而在参与国际法规的制定中由于缺乏技术支撑而鲜有发言权。

我早年在德国达姆施塔特求学期间，领略了高端汽车照明学术论坛对行业发展的巨大推动作用，一直期待在我国也能通过专注于学术交流的国际会议云集国内外行业专家学者，为我国汽车照明产品的设计、应用、质量检测与标准制定提供创新思路和技术源泉。随着LED照明技术的崛起，汽车照明系统正经历着重要变革，国内外汽车照明业进入新一轮的竞赛，这正是举办中国国际汽车照明论坛的好时机。这一想法也得到了联合国灯光与信号法规部(GRE)、国际汽车照明专家联盟(GTB)、国际照明委员会(CIE)、国际汽车工程学会照明委员会(ISA)、以及国内三大汽车技术公司、三大汽车照明检测中心、复旦大学、北京通泰、上海小糸、飞利浦、歌司朗等单位的大力支持。国内外专家学者积极响应，短时间内为论坛提供了大量高质量的论文。德国国际汽车照明研讨会(ISAL)也特别将ISAL的经典论文发送至此次的IFAL会议，对IFAL的顺利召开提供了强有力的支持。这次论坛的论文和演讲是一个国际、国内汽车照明技术、设计、制造、测试、标准及法规结合的缩影。

正是因为各位的努力，才促成了此次会议的召开。因为时间仓促，会议的筹备也有诸多考虑不周之处，还望多多包涵。期待演讲者们的精彩发言与交流能力与会者带来超乎期待的收获。让我们一起打造高水平的国际化汽车照明学术盛宴!

林燕丹

中国国际汽车照明论坛(IFAL)组委会主任
国际照明委员会(CIE)第4分部(交通照明与光信号)副部长
中国照明学会交通照明与光信号委员会主任
2013.6.10



第 一 届 中国 国际 汽车 照明 论坛 (2013)
The First International Forum on Automotive Lighting (2013, China)

Preface

The vision of IFAL is to form a high-end platform for exchange and cooperation among industrial, academic and research. Due to the lack of similar academic conference in this field in China but the existing huge market and stronger requirement of technology, IFAL will surely become the key platform in the future, and all participants, especially product manufacturers, technology suppliers and measurement centers will benefit mostly from this platform. Academic researchers can also get the very chance for getting involved with direct industry requirements.

However due to the relatively slow development in this field in China, it was expected to be very difficult to organize the 1st IFAL. Fortunately the organization of IFAL was supported, from the very beginning, by Marcin Gorzkowski (Chairman of GRE), Geoff Draper (President of GTB), Ad de Visser (Director of CIE Div4), Tran Quoc Khanh (TU Darmstadt), Jianzhong Jiao (SAE), Yuntang He (CATARC), Zhongrong Huang and Shijung Zhang (SMVIC), Taiming Zhou and Rongqing Liang (Fudan University), Zhaoji Guo and Jinlong Ao(S-Koitto), Meng Han(Philips), Adam Wu(OSRAM) etc. Thanks to ISAL organization committee, for ensuring the participants from China to have the better understanding of ISAL and of the advanced technology of automotive lighting, ISAL offered IFAL some high quality papers to introduce us the most widely and advanced technology. With these support, the organization of IFAL is successful, attracting lots of famous experts and auto industry people from all over the world. Due to the relative short period for the organization, I would also ask for your kind understanding in any case of less consideration.

For years I have been working on the relationship between lighting and human needs, I understand well the importance of automotive lighting for driving safety. The experience of studying in TU-Darmstadt in Germany helps me to understand what the advanced automotive lighting technology is, as well as how well a good academic conference could promote the development of industry. I do believe that with your further support, IFAL can realize its original vision. I'd like to be devoted to the future IFALs with all your continuous support.

Enjoy your stay in IFAL!

Yandan Lin
Chairman of IFAL2013 Organization Committee
Vice Director of CIE Div4
Director of CIES Division for Lighting and Signaling for Transport
June.10.2013



2014 第一屆 主题: 安全 可靠 智能 标准
Safety, Reliability, Intelligent Systems, Regulatory Harmonisation
中国 国际 汽车 照明 论坛
The 2nd International Forum on Automotive Lighting (2014, China)



序 PREFACE

It is hard to believe that it is already one year since the conclusion of the First International Forum on Automotive Lighting (IFAL) in China. The vision of its organizer, Dr. Yandan Lin was to create a solid Chinese platform for the exchange of scientific information and cooperation among experts from industry, academia and research. Indeed, the door to China was opened, and the foreign participants of the first IFAL encountered a great display of Chinese potential in the area of vehicle lighting and light signalling. The foreign experts also shared their experience with emerging technologies and the expectations of the automotive industry with respect to road illumination, vehicle marking and signalling, the visual human-machine interface and the styling potentials. The vision Dr. Yandan Lin's platform brings a reality. The successful IFAL brings great potential to the Chinese academia and automotive industry in the area of vehicle lighting and light signalling. The exposure and consequent comradeships between Chinese experts and the internationally renowned foreign experts brought potential for a long lasting cooperation and prosperity to all the involved parties and the potential for improvement of vehicle lighting and light signalling that would benefit the road-travelling public. The great success of the first IFAL 2013, also gave credibility to its organizers, the Fudan University and China Illuminating Engineering Society (CIES). The unstoppable vigour of Dr. Yandan Lin makes one believe in the unequivocal ability of the organizing committee, of which I am privileged to be a member.

距首届中国国际汽车照明论坛(IFAL)结束已有一年的时间,真是难以置信。该论坛的组织者,林燕丹博士的愿望是在中国为科技信息的交换,以及为来自产业界和学术界专家的合作创造一个坚实的平台。事实上,中国的大门是敞开的,首届IFAL的外国参会者们已领略到中国所展现的在汽车和光信号照明领域的巨大潜力。国外的专家学者也分享了与道路照明、汽车信号灯、人机视觉交互和外观趋势有关的新兴技术和对汽车产业的期待。林燕丹博士愿景中的平台已成为现实。IFAL的成功为中国在汽车和光信号照明领域学术界和产业界带来了巨大的潜能。中国与国际化知名专家的交流和友谊为各方的长期合作与繁荣打下了基础,也有益于汽车和光信号照明的进步,从而使依赖公路出行的大众受益。2013年首届IFAL的巨大成功,为它的组织者复旦大学和中国照明学会(CIES)带来了信心。林燕丹博士的不懈努力让我们确信论坛组委会的能力,我也有幸作为其中的一员。

The second IFAL is held in the shadows of the Fudan University. The program is rich with insights into scientific research, innovative concepts and leading technologies in the field of vehicle lighting and light signalling; it includes calls for regulatory cooperation and harmonisation and it contains authoritative opinions on design, application, quality testing, standards and safety regulations regarding automotive lighting products. IFAL 2014 is a perfect blend of 2 invited and 13 keynote speeches as well as 25 oral presentations in 8 technical sessions. It will also feature 2 panel discussions. Participants, who attended the 2013 IFAL, will notice great improvement in quantity and quality of the presented technical information, as the 2014 IFAL attracted a larger base of sponsors as well as more international experts from different countries and more representatives of Chinese industry and academia.

第二届IFAL在复旦大学举办。这届论坛汇聚了学术界在汽车和光信号照明领域的研究进展、创新概念和领先技术,也包括了规范化的合作与协调的需求,包含了对汽车照明产品设计、应用、质量检验、标准和规范的权威观点。IFAL2014包括2场邀请报告、13场主题报告,以及8个技术分区的25场口头报告,还特别安排了2场专题小组讨论。出席过去年IFAL的参会者们会注意到所展现的技术信息在量与质上的巨大飞跃,因为今年的IFAL吸引了来自世界更多赞助商和专家,以及中国产业界和学术界代表。

Looking at the agenda of IFAL 2014, I am certain that the Forum will improve the already well established platform for exchange of information and cooperation among industry, academia, researchers and regulatory experts as well as help in transition of emerging technologies from the drafting board of the designers to the manufacturers and the consumers. At the conclusion of IFAL 2014, all participants will have a clear picture of the immediate future trend of development and other major issues related to the automotive lighting and light signalling technology and its application. IFAL 2014 will benefit all participants representing international industry and governments, research enterprises and automobile and automobile lighting industry. It will maximize their returns and provide public with safe vehicle lighting and light signalling.

了解了IFAL2014的议程后,我确信该论坛将会使已经建立起的良好平台更为完善。该平台可以让产业界、学术界、研究人员和合规专家们交换信息、沟通合作,也有助于兴起的技术从设计师的草案转化到制造商和消费者手中。在IFAL2014结束时,所有参会者将对与汽车照明与光信号技术和应用相关的发展趋势和其他重要问题有一个清晰的概念。IFAL2014将使代表国际业界和政府、科研企业、汽车与车灯工业的所有参会者们受益匪浅。他们会获得巨大的回报,同时为大众提供安全的汽车照明和光信号。

I am already looking forward to the next IFAL. If the current trend will continue, and I have no doubt that it will, the currently established cooperation and exchange of information will make the world a better place. So please mark your calendars and make sure that your colleagues who missed this IFAL will also attend. To make IFAL a continuous success we need your continued support. Thank you for what you did so far and thank you for your future support.

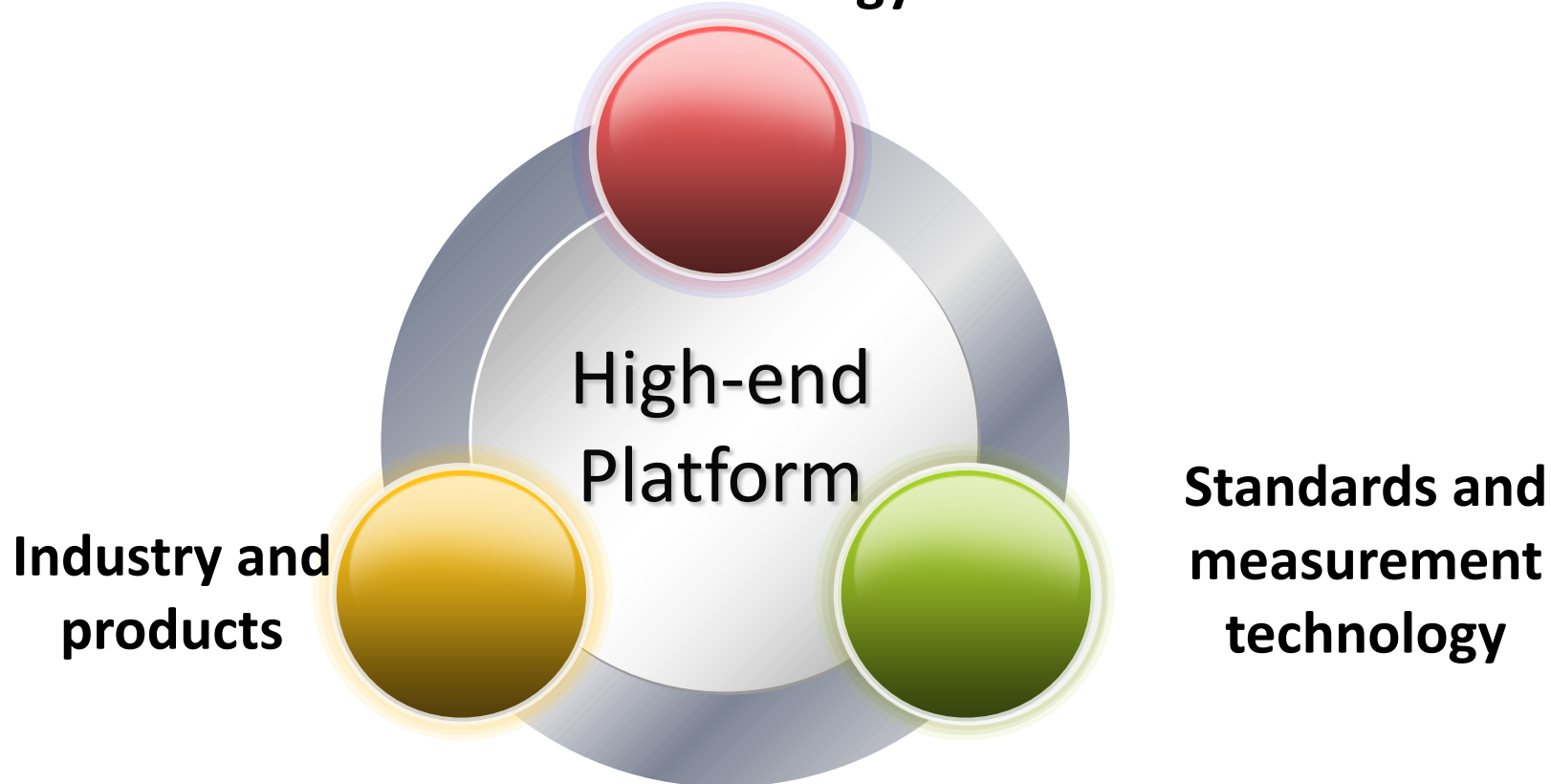
我已经开始期待下一届IFAL。如果按目前趋势继续下去,我确信会如此。业已建立的合作关系与信息交流将使世界更为美好。所以,请在你们的日程表上做好标记,确保你们那些错过本届IFAL的同事们也能来参加。为了使IFAL持续地发展,我们需要你们不懈的支持。感谢你们迄今为止所做的一切,也感谢你们未来的继续支持。

Marcin A. Gorzkowski, M.Eng., P.Eng.
Chairman of United Nations Working Party
on Lighting and Light Signalling (GRE)
June 6, 2014

Marcin A. Gorzkowski
联合国灯光与信号法规部(GRE)主席
2014年6月6日

Purpose of IFAL

**Academic research and
technology**



**Industry and
products**

**Standards and
measurement
technology**

Organizer



- Institute for Electric Light Sources, Fudan University
- Division for Lighting and Signalling for Transport, China Illuminating Engineering Society
- Engineering Research Center of Advanced Lighting Technology, Ministry of Education



Co-organizer



- National Center of Supervision and Inspection on Motor Vehicle Products Quality (Shanghai)



- Beijing Tongtai International Exhibitional Co. Ltd



Website of IFAL

http://www.ifal.net/en/



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汽车照明论坛

on Automotive Lighting (2014,China)

产学研及供需双

High-end Platform for Exchange and Cooper

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IFAL 2014论文全文模版



第一届中国国际汽车照明论坛

11月10日上午 待定

2013年6月19日6月21日(暂定)
号委员会联合主办的第一

点击查看



2014中国国际汽车照明论坛(第二届)

时间: 2014年6月18日(星期三)-20日(星期五)

地点: 复旦大学·上海

会议须知

友情提示: 为保证论坛会议的顺利进行, 支持和协助我们做好各项服务工作, 请您在会议期间注意 以下几个方面:

主办单位





产学研及供需双方技术的交流合作高端平台
High-end Platform for Exchange and Cooperation among Industrialists, Academia, Researchers and Regulators

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The 2nd International Forum on Automotive Lighting(2014,China)
June 18(Wednesday)-20(Friday),2014
Fudan University,Shanghai

The 2nd International Forum on Automotive Lighting (2014.China)

Organizer




The 3rd IFAL Location

- Doubletree by Hilton, Kunshan/Beside Shanghai Auto City



- Add: No. 2, Zhaofeng Road, Kunshan, China
- Tel: 0521-57602222
- E-mail: kun.shan@hilton.com

Important dates

- Abstract submission: 15th Jan.
- Paper accepted informing: 28th Feb.
- Full paper submission: 30th Apr.
- Pre-registration: 15th Apr.
- Conference Date: **June.17-19,2015, Shanghai**



中国际汽车照明论坛
International Forum on Automotive Lighting

<http://www.ifal.net>

产学研及供需双方技术交流合作高端平台
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