公益社団法人自動車技術会
公開委員会のお知らせ

テ　ー　マ：**「自動車のヒューマンファクターを改めて考えるー運転の支援と自動化」**

日　　時：　2016 年 3 月 1 日（火）　13：30 ～ 17：00
会　　場：　筑波大学東京キャンパス文京校舎 134 講義室
　　住　所：東京都文京区大塚 3-29-1
　　（TEL 03-3942-6805（代表））
　　交　通：丸ノ内線茗荷谷（みょうがだに）駅下車「出口１」徒歩２分程度
　　地　図：http://www.tsukuba.ac.jp/access/bunkyo_access.html
主　　催：　公益社団法人自動車技術会、科研費基盤研究(S)「人の認知・判断の特性と限界を考慮した自動走行システムと法制度の設計」(研究課題番号：15H05716 代表　筑波大学　稲垣敏之教授)
協　　賛：　IEEE SMC Shared Control Technical Committee
企　　画：　ヒューマンファクター部門委員会
受付定員：　100 名(除く、委員)
参 加 費：　無料
申込締切日：　2016年2月23日（火）　17：00
　　※ 先着順。定員になり次第締め切ります。
申込方法：　下記 WEB サイトよりお申し込み下さい.
　　⇒ https://tech.jsae.or.jp/opencom/Entry.aspx?id=0020
お問い合わせ：　公益社団法人自動車技術会　技術交流グループ　山崎
　　E-mail：tech@jsae.or.jp　／　TEL: 03-3262-8235
※　本講演の言語は英語となります.

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13:30 - 13:35
開催挨拶　ヒューマンファクター部門委員会　委員長　伊藤誠氏（筑波大学）

13:35 - 14:50（講演60分、質疑15分）
講演１「Research strategies of Automotive Human Factors Research Center, AIST」
　　北﨑　智之氏（産業技術総合研究所　自動車ヒューマンファクター研究センター長）
要　旨：Human factors are of growing concern in the automotive industry. There are several factors affecting the growth. Firstly, Japan is the most aged country in the world and the number of traffic accidents of older drivers keeps increasing. Although

the industry and the government have made a lot of efforts to solve the problem, success has been limited so far. We need to deeply understand driving of older people to find more effective solutions. Secondly, automotive industries are involved worldwide in the hard competition for development of the vehicle automation technology. Now it has been found that human factors are core issues to be solved to step forward toward commercialization of the technology. Lastly, “driving” naturally includes a fun part as well as social parts. There is a need from the Japanese industry for enabling to design “driving pleasure”. We need to understand scientifically what “driving pleasure” is.
Automotive Human Factors Research Center (AHFRC) was established on April 1, 2015 in National Institute of Advanced Industrial Science and Technology (AIST) located in Tsukuba, Japan. The core competencies of AHFRC are integrative approaches to systematic understanding of drivers using behavioral, cognitive, neurological and physiological measures. There are currently three research fields, 1) support of older drivers for safe driving, 2) human factors in autonomous driving, and 3) driving pleasure. We are conducting research to achieve our vision that is “establishment of human-centered methodologies to design vehicles to be safe, comfortable and enjoyable for all drivers”. The research strategies and activities for each of the above research fields will be introduced and discussed.

休憩（10分間）

15:00 - 16:15（講演60分、質疑15分）
講演 2「Developing a feel for symbiotic driving - Establishing haptic shared control as adaptive, individualized interaction between driver and highly-automated car」

Dr. David A. Abbink（Associate Professor at Delft University of Technology）

要　旨：The question is not if automated vehicles will be introduced on our roads, but when and how. A major bottleneck is communication and interaction between driver and highly-automated vehicle, especially when drivers need to regain control quickly and unexpectedly. Conventional human-automation interaction (beeps, switches) is inadequate, but academia and industry are struggling to invent better alternatives. A promising approach is haptic shared control, where drivers can feel (and interact with) the automation¹s control activity through forces on the steering wheel or gas pedal, similar to the intuitive physical interaction between horse and rider through the reins. However, where horse and rider establish a symbiotic relationship, today¹s haptic interfaces fail to adapt to highly individual and situated driver-behaviour-preferences and automation reliability. David will explain the haptic gas pedal he developed to support car-following, in collaboration with Nissan,

in a project co-managed by Satoshi Kitazaki. He will also show many design and evaluation studies for haptic shared control for steering. He will also discuss the limitations and future work in shared control. The current Œone-size-fits-all¹ design of haptic shared control causes conflicts between driver and haptic automation, which in turn reduces driver understanding, acceptance, comfort. Future research is to establish a novel, informative, cooperative and mutually adaptive interaction between driver and highly-automated vehicle. To enable this David will investigate how to animate the currently inflexible haptic shared control interface based on fundamental insight into driver¹ situated adaptation.

休憩（10分間）

16:25 - 16:50
総合討論

16:50-17:00
終了挨拶　稲垣敏之氏（筑波大学）

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以上