

## INTRODUCTION

The ESV Program originated more than three decades ago under the North Atlantic Treaty Organization (NATO) Committee on the Challenges of Modern Society, and was implemented through bilateral agreements between the Governments of the United States, France, the Federal Republic of Germany, Italy, the United Kingdom, Japan, and Sweden. The participating nations agreed to develop experimental safety vehicles to advance the state-of-the-art technology in automotive engineering and to meet periodically to exchange information on their progress. Since its inception the number of international partners has grown to include the governments of Canada, Australia, The Netherlands, Hungary, Poland, and two international organizations -- the European Enhanced Vehicle-safety Committee, and the European Commission. A representative from each country and organization serves as a Government Focal Point in support of the Conference.

The National Highway Traffic Safety Administration, U.S. Department of Transportation in the interest of information exchange, distributes this CD-Rom publication containing the Proceedings of the 19th ESV Conference. The technical papers included in this publication detail safety research efforts underway worldwide, and share the common international objective of reducing motor vehicle related fatalities and injuries. The opinions, findings, and conclusions expressed in the publication are those of the Author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration.

The Conference Organizers thank our international participants for their dedication and support of the 19<sup>th</sup> ESV Conference and look forward to your future involvement.

Donna E. Gilmore  
ESV Technical Coordinator

## 19<sup>TH</sup> ESV INTERNATIONAL TECHNICAL PROGRAM DELEGATES

### United States – 19<sup>th</sup> ESV Conference Host

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The Honorable Norman Y. Mineta  
Secretary  
U.S. Department of Transportation

The Honorable Jeffrey W. Runge, M.D.  
Administrator  
National Highway Traffic Safety Administration

Dr. Ronald L. Medford  
Senior Associate Administrator for Vehicle Safety  
National Highway Traffic Safety Administration

Joseph N. Kianianthra, Ph.D.  
Chairman, 19<sup>th</sup> ESV Organizing Committee  
National Highway Traffic Safety Administration

Donna E. Gilmore  
ESV Technical Coordinator  
National Highway Traffic Safety Administration

IHRA Secretariat  
Office of Vehicle Safety Research  
National Highway Traffic Safety Administration

Rae Tyson  
Director of Media Relations  
National Highway Traffic Safety Administration

## 19th ESV Government Focal Points

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### **Australia**

**Mr. Craig Newland**  
Senior Engineer  
Department of Transport and Regional Services



### **Canada**

**Dr. Y. Ian Noy**  
Director, Standards Research and Development  
Transport Canada



### **European Commission**

**Dr. Reinhard Schulte-Braucks**  
Head of Unit, Automotive Industry  
European Commission



### **European Enhanced Vehicle-safety Committee**

**Dr. Dominique Cesari**  
Deputy Director  
INRETS



### **Federal Republic of Germany**

**Dr. Josef Kunz**  
Präsident und Professor  
President of Federal Highway Research Institute (BAST)



### **France**

**Mr. Bernard Gauvin**  
Ingénieur général des mines  
Ministère des transports



### **Hungary**

**Mr. Sándor Szabó**  
Head of EU-UNECE Centre  
KTI/Institute for Transport Sciences



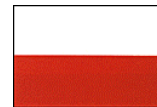
### **Italy**

**Dott. Ing. Antonio Erario**  
Director of the International Regulation Division  
Minister of the Infrastructure and the Transportation Modes



### **Japan**

**Mr. Masana Ezawa**  
Deputy Director  
Ministry of Economy, Trade and Industry



### **Poland**

**Mr. Wojciech Przybylski, M.Sc.**  
Head of Vehicle Approval and Testing Department  
Motor Transport Institute



### **Sweden**

**Mr. Anders Lie**  
Specialist, Head Office  
Swedish National Road Administration



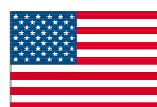
### **The Netherlands**

**Mr. Kees Doornheim**  
Head of vehicle standards development  
RDW Vehicle Approval and Information



### **United Kingdom**

**Mr. John Jeyes**  
Deputy Head of Vehicle Technology and Standards  
Department for Transport



### **United States**

**Dr. Joseph N. Kianthra**  
Associate Administrator for Vehicle Safety Research  
National Highway Traffic Safety

## 19<sup>th</sup> ESV Technical Session Chairpersons & Co-Chairs

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**Chairperson:** Ekkehard Brühning, Germany | **Co-Chair:** Rodolfo Schöneburg, Germany  
Rollover Crashworthiness and Protection

**Chairperson:** Peter O'Reilly, United Kingdom | **Co-Chair:** Bernie Frost, United Kingdom  
\*Compatibility in Frontal/Side Collisions

**Chairperson:** Peter Burns, Canada | **Co-Chair:** Andry Rakotonirainy, Australia  
\*Advanced Intelligent Technologies – ITS

**Chairperson:** Yoshiyuki Mizuno, Japan | **Co-Chair:** Masao Notsu, Japan  
\*Improved Safety for Pedestrians and Other Vulnerable Road Users

**Chairperson:** Michael Monk, United States | **Co-Chair:** Scott Schmidt, United States  
Vehicle Handling, Stability and Control Systems, and Rollover Prevention

**Chairperson:** Rolf Eppinger, United States | **Co-Chair:** Priya Prasad, United States  
\*Biomechanics: Injury Criteria and Test Procedures

**Chairperson:** Kaneo Hiramatsu, Japan | **Co-Chair:** Annie Pautie, France  
Advanced Technology: Driver-Vehicle Safety/Driver Performance

**Chairperson:** Craig Newland, Australia | **Co-Chair:** Suzanne Tylko, Canada  
\*Developments in Side Impact Protection

**Chairperson:** Jac Wismans, The Netherlands | **Co-Chair:** Priya Prasad, United States  
Injury Risk Assessments

**Chairperson:** William T. Hollowell, United States | **Co-Chair:** Saeed Barbat, United States  
Alternative Fueled Vehicles and Their Safety Implications (NEW)

**Chairperson:** Dominique Cesari, France | **Co-Chair:** Michiel van Ratingen, The Netherlands  
Biomechanics: Dummy Development and Computer Modeling

**Chairperson:** Geoff Harvey, United Kingdom | **Co-Chair:** Steve Gillingham, United Kingdom  
Safety of Motorcycles, Heavy Trucks, and Buses

**Chairperson:** Anders Lie, Sweden | **Co-Chair:** Anders Kullgren, Sweden  
Restraint Systems for Adults and Children

**Chairperson:** Dainius Dalmotas, Canada  
Developments in Frontal Impact Protection

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\* International Harmonized Research Activities, IHRA

## 2005 U.S. Government Award Recipients

### Safety Engineering Excellence

Peter E. Reith	Germany
Koichi Kamiji	Japan
Lotta Jakobsson	Sweden
Jan Olsson	Sweden
Pete Thomas	United Kingdom
Jeff R. Crandall	United States
Richard C. Lind	United States

### Special Award of Appreciation

Jean-Yves Foret-Bruno	France
Juichiro Takada	Japan
Per Lövsund	Sweden
Maurice A. Eaton	United Kingdom
Brian O'Neill	United States