INTRODUCTION
The Enhanced Safety of Vehicles (ESV) program originated in 1970 under the North Atlantic Treaty Organization (NATO) Committee on the Challenges of Modern Society, and was implemented through memorandums of understanding between the Governments of the United States, France, 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 safety 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, Republic of Korea, and two international organizations the European Enhanced Vehicle-safety Committee, and the European Commission. A representative from each country/organization serves as a Government Focal Point in support of the ESV program.

In the interest of information exchange, The U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA), distributes the Proceedings of the 25th International Technical Conference on the Enhanced Safety of Vehicles. The technical papers in this publication detail safety research efforts underway worldwide, and share the common interest of reducing motor vehicle related fatalities and injuries.

The opinions, findings, and conclusions expressed in the publications are the original written work of the author(s) and not necessarily those of the U.S. Department of Transportation, National Highway Traffic Safety Administration. Traditional papers are accepted after the corresponding abstracts undergo technical review. To enhance the scientific content, twenty three papers were accepted for peer-review and published in a special edition of Traffic Injury Prevention 18(S1), by Taylor and Francis Group. These papers are available to the public via https://www-esv.nhtsa.dot.gov/

On behalf of the Conference Organizing Committees we thank our international participants for their dedication and support of the 25th ESV Conference and look forward to your future participation.

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U.S. GOVERNMENT AWARD RECIPIENTS
Presented at the 25th ESV Conference
Detroit, Michigan, United States

U.S. Government Special Awards of Appreciation
In recognition of and appreciation for outstanding leadership and special contributions in the field of motor vehicle safety

Andre Seeck  Germany
Takashi Shimodaira  Japan
Per Lenhoff  Sweden
Michiel R. van Ratingen  The Netherlands
George Soodoo  United States
Adrian Lund  United States

U.S. Government Awards for Safety Engineering Excellence
In recognition of and appreciation for exceptional scientific contributions in the field of motor vehicle safety engineering and for distinguished service to the motoring public

Suzanne Tylko  Canada
Farid Bendjellal  Germany
Ola Borstrom  Sweden
Magdalena Lindman  Sweden
Myra Blanco  United States
Bruce Donnelly  United States
Kazuo Higuchi  United States
W. Riley Garrott  United States
25th ESV INTERNATIONAL STUDENT SAFETY TECHNOLOGY DESIGN COMPETITION FINALISTS

ASIA PACIFIC – JAPAN, REGION 1
REGIONAL COORDINATOR: MASASHI YUKAWA, JSAE, JAPAN
Tokyo City University
“PAPA - Protection Against Placental Abruption”

EUROPE, REGION 2
REGIONAL COORDINATOR: BERND LORENZ, BASt, GERMANY
HTW Saar – University of Applied Sciences, Saarbrücken
“Advanced Driver Assistance Systems for Motorcycles: Concept of a Lane Change Assist”

NORTH AMERICA, REGION 3
REGIONAL COORDINATOR: ARTHUR CARTER, NHTSA, UNITED STATES
Michigan State University
“Object Classification Using X-Band CW Radar”
Stanford University
“MR – Safe Controllers”
California Polytechnic University
“Small Scale Intelligent Vehicle Design Platforms”
University of Michigan - Dearborn
“Secure Autonomous Vehicle Platooning”