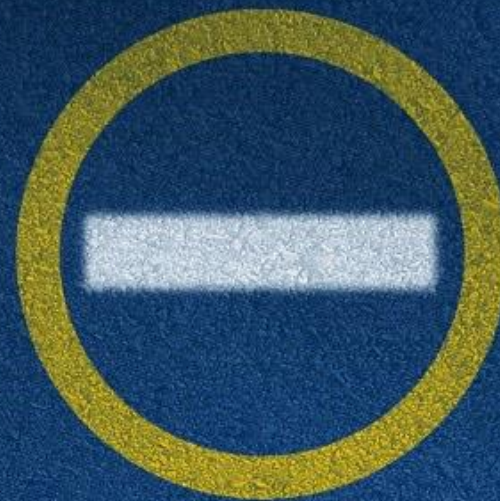




**WORLD DAY
OF REMEMBRANCE**



**MINISTERO
DELLE INFRASTRUTTURE
E DEI TRASPORTI**

anas
GRUPPO FS ITALIANE



**SICUREZZA
STRADALE**
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Con il patrocinio ed in
collaborazione con:



UNECE

**EuroMed Transport
SUPPORT PROJECT**



Ordine degli Ingegneri
della Provincia
di Roma



Fondazione
Ordine degli Ingegneri
Provincia di Roma



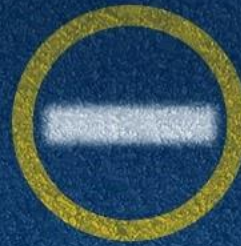
Con il patrocinio:





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המכון לחקר הגורם האנושי
לתאונות דרכים



Prof. Tova Rosenbloom

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Associate Editor of Accident Analysis and Prevention



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Human Factors in Road Safety: International Initiatives





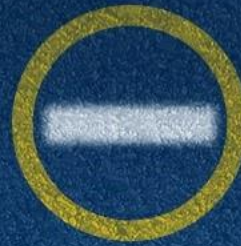
Some words about our research institute

- Our research is focused on the behavior of road users : Psychological, Cognitive, Personality, Sociological, Criminological, Educational and Organizational aspects of road safety. To the best of my knowledge this is among the few research institutes all over the world that are dedicated to the psychological aspects of road safety.
- At this moment 17 PhD students together with 13 Thesis students (all of them in my supervision) are studying different issues in Traffic Psychology
- We specialize in field research
- We will be happy to cooperate with other countries as we believe that we can contribute our experience and conclusions of our research



Human Factors in Road Safety

- There is a consensus that road users' behavior is the main reason for road accidents, more than the vehicle as well the roads.
- Traffic Psychology applies the human principles of psychology on traffic behavior and road safety.
- All the branches of Psychology are relevant to road safety – perceptual, cognitive, educational, social, organizational and of personality.



Main Reasons for Road Crashes In a nutshell

- Fatigue
- Alcohol and drugs
- Distraction
- Speeding
- Disobedience to traffic rules



Fatigue

- According to the WHO people over the world sleep much less than needed for proper functioning (<https://www.who.int/publications/i/item/9789241550536>)
- People may fall asleep while driving due to sleep deprivation
- People are not in full capacity after sleep deprivation so they cannot prevent a crash to occur





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One of out of many optional solutions is a system that monitors the driver's alertness by analyzing the changes in her / his pupil. Also, it can notice if the driver's eyes are closed for a short time. When the system detects fatigue an alert is received by the driver.

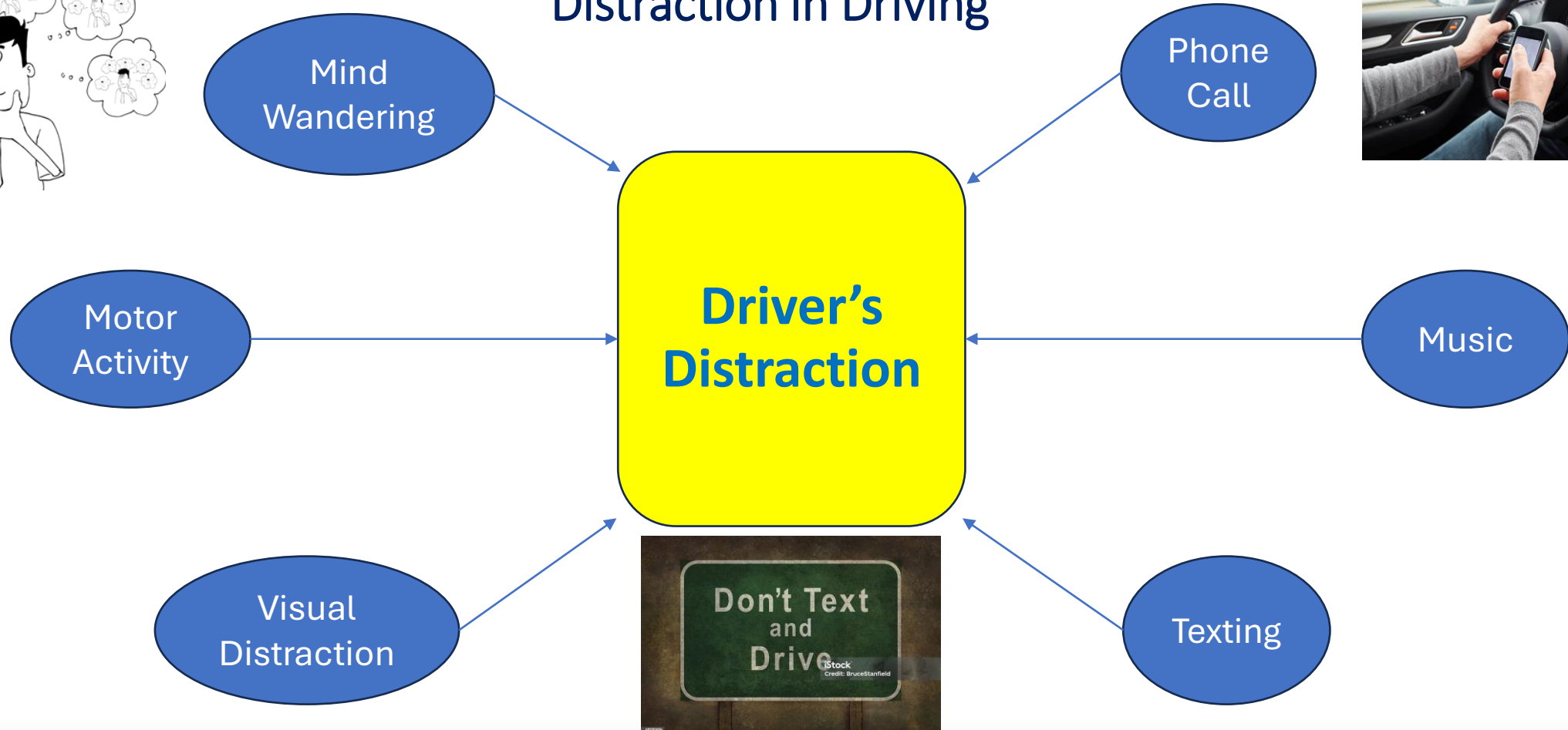


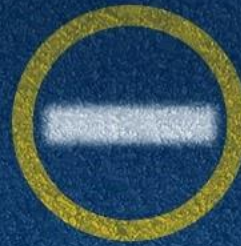
Alcohol and Driving

- Driving under influence of alcohol is known as one of the riskiest behaviors.
- There are many technologies that are aimed to prevent this phenomenon. One of them is **Interlock Device**. People that are prone to this behavior are obliged to use it before starting to drive. The driver breathes to a breath analyzer that monitors the alcohol rate in the blood and unlocks the vehicle only if the test has been succeeded.



Distraction in Driving





Cell Phone Blocker

Cell phone blocking apps and devices can be activated by adding a service to a wireless plan, downloading an app onto the phone (many are free) or installing a device in the vehicle to put a “geofence” – also referred to as a virtual barrier – around the driver.





For Reducing speeding and Other Disobedience to rules: **Assistance System (ADAS)**



- ADAS features like adaptive cruise control and forward collision warning use technology to assist drivers and enhance road safety.
- One of the functions of ADAS is Lane Departure Warning (LDW) system measures the distance to the lane lines and warns drivers if they drift towards these lines too closely or too fast.
- The system assists in lane keeping for example by monitoring length (axis or edge) markings by means of a camera.



Other Existing Solutions – for Pedestrians

- Request Push Button – for turning to green light
- Thermal Camera for identification of pedestrians
- Infrared Sensor
- Piezo-electric Sensor – alerts when a pedestrian steps on it
- Crossing Smart Card for elderly road users
- Pedestrian Countdown Timer
- Alert of approaching vehicle or red light



GRAZIE

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