

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ  
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ  
КАФЕДРА ІНОЗЕМНИХ МОВ  
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР**

**МАТЕРІАЛИ  
VIII МІЖВУЗІВСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ  
КОНФЕРЕНЦІЇ  
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ  
КАФЕДРИ ІНОЗЕМНИХ МОВ**

**“TO LIVE IN A SAFER WORLD”**

**(Суми, 28 березня 2014 року)**

The eighth scientific practical student`s, postgraduate`s and teacher`s  
LSNC conference

## СЕКЦІЯ 7 ІННОВАЦІЇ ТА ІННОВАТОРИ

### WINDSCREEN WIPER

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Today both car drivers and car passengers cannot imagine this kind of vehicle without a windscreen wiper. There are only a few who know its history and evolution.

A windscreen wiper is a device used to remove rain and debris from a windscreen or windshield. A wiper generally consists of an arm, pivoting at one end and with a long rubber blade attached to the other. The blade is swung back and forth over the glass, pushing water from its surface.

In 1903, a U.S. inventor Marie Anderson (born Mary Anderson) invented and patented the idea of fluctuating wiper blades. This idea was met with resistance, but by 1916 all American cars were equipped with wipers.

In 1964, an American inventor Robert Kearns (1927-2005) invented, patented and introduced the idea of "delay" or "slot" in the wiper operation.

Wipers may be powered by a variety of means, although most in use today are powered by an electric motor through a series of mechanical components, typically two 4-bar linkages in series or parallel.

Mercedes-Benz pioneered a system called the Monoblade, based on cantilevers, in which a single arm extends outward to reach the top corners of the windscreen, and pulls in at the ends and middle of the stroke, sweeping out a somewhat 'M'-shaped path.

Most windscreen wipers operate together with a windscreen (or windshield) washer; a pump that supplies a mixture of water, alcohol, and detergent (a blend called windshield washer fluid) from a tank to the windscreen.

Like many other devices used in our everyday life, modern vehicles are now available with driver-programmable intelligent (automatic) windscreen wipers that detect the presence and amount of rain using a rain sensor.