

1999 Achievement Award

Dr. Shirley E. Schwartz

General Motors Research and Development Center

In recognition of outstanding contributions to lubrication technology, development of environmentally friendly products, conservation of non-renewable natural resources, and significant achievements in promoting awareness of technical professions.

Dr. Shirley E. Schwartz, senior staff research scientist, General Motors Research and Development Center, is a world renowned researcher whose area of expertise is the conservation of engine oils for engines fueled with gasoline and alternative fuels. She developed a patented device that notifies a car's driver when the engine oil should be changed; this device is now mounted on the dashboard of many General Motors vehicles. The engine oil change indicator was named the Product of the Year by *The Oil Daily*. As a recognized authority on lubrication, tribology, and the chemistry of lubricant additives, Dr. Schwartz has been named a Fellow of the Society of Tribologists and Lubrication Engineers and the Society of Automotive Engineers. Dr. Schwartz has examined engine oil degradation; wear, corrosion, and elastomer durability in engines; the effects of methanol and ethanol fuel on engines; and lubricants for air conditioners that use alternative refrigerants (other than Freon R12). Her work in these areas have been targeted towards:

- obtaining the maximum useful life of engine oil
- finding acceptable ways to use alternative energy sources
- developing refrigerant systems that will not hurt the earth's ozone layer

These research efforts have led to a number of patents and more than 200 publications and presentations.

She has received numerous honors and awards. These include Arch T. Colwell Award (Society of Automotive Engineers), the Wilbur Deutsch Memorial Award (Society of Tribologists and Lubrication Engineers), and the Kettering and McCuen Awards from General Motors. She has been inducted into the Michigan Women's Hall of Fame.

Dr. Schwartz's fondness for lubricants has resulted in over 100 articles titled "Love Letters to Lubrication Engineers," published in *Lubrication Engineering*. Forty five of these articles were published in a book sold by the Society of Automotive Engineers and the Society of Tribologists and Lubrication Engineers. She has published "Love Letters to Japanese Lubrication Engineers" for the Japanese Society of Tribologists.

Dr. Schwartz has been active in a number of technical societies including the Society of Tribologists and Lubrication Engineers and the Society of Automotive Engineers. As the leader of the Coordinating Research Council Group on Lubricants of Methanol-Fueled Vehicles, she chaired several international conferences. In addition to her writing, she currently participates in a wide variety of athletics including volleyball, table tennis, and swimming.