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**PERSONAL:** Born in Busan, Korea; living in the U.S. since 1954.

**EDUCATION:** Ph.D. (1965), M.Sc in Ch.E. (1960), B.Ch.E. (1959) all from the Ohio State University; two years of Liberal Arts, Findlay College; two years of Ch.E. Seoul National University.

**EXPERIENCE:** Esso (presently Exxon) Research & Engineering Co., Linden, NJ: Research Engineer, 1963-66, Senior Research Engineer, 1966; two-year leave from May; and resigned in December 1971.

12/63 **Low Temperature Fluidity of Multi-grade Crankcase Oils.**  
Study of engine cold-cranking process (CRC L-38 method) and development of a laboratory test method for predicting Engine Viscosity by uses of the modified cone-plate viscometers. (Refer to U.S. Patent 3,307,619). Invention and development of the **Cold Cranking Simulator**, the international standard instrument for specifying the low temperature fluidity of crankcase oils by SAE, ASTM, CRC, and ISO. (Refer to SAE J 300, ASTM D-2602, related foreign national standards, U.S. Patent 3,350,922, related foreign patents and SAE 680067).

1/65 **Rheology of Polymer-Oil Solutions.**  
Invention and development of a large scale high-resolution polymer fractionation technique. Established the theory and basic mechanism by which various Viscosity Index Improvers work.

1/66 **Ethylene-Propylene Copolymer V.I. Improver Development.**  
Designed, constructed, and started-up a pilot plant for an automated continuous process in three months. Preliminary process variable and product quality study.

11/66 **Automotive Exhaust Emission Control Studies.**  
Formulation of overall research plan to build an automotive engine with the target emission level mandated for 1976 by the original Clean Air Act Amendment of 1970.  
Invention and development of **Synchro-thermal Reactor System**, which surpassed the above target emission levels (Refer to SAE 700147, and U.S. Patents 3,641,767, 3,643,425, and 3,643,640).  
Invention and partial development of the long range **Non-Polluting High Efficiency, Automotive Power Plant** and a prototype car. (Refer to U.S. Patent 3,513,929 and related eight foreign patents).  
Studied and formulated a two-stage combustion process for minimal formation of pollutants/emission.  
General in-house consultant to other auto emission related works, including oxidation/reduction catalysts, exhaust gas re-circulation, and fuel distribution in the induction system.

1/69 **New Projects (Venture) Development Activities.**  
Loan assignment to Government/Corporate R. L. on re-evaluation of fuel cell related electro-chemical research. New venture screening on crude de-sulfurization, refinery waste-water renovation, and by-product coke utilization. Loan assignment to Jersey Enterprises, for new technology assessment on non-conventional power generation and energy storage. Assessment of other non-petroleum related businesses.

5/71 **On Leave To Develop the Advanced Automotive Power Plant.**  
An option to free non-exclusive license of U.S. Patent 3,513,929, all rights to its improvements, free access to all Esso's technical information related to the auto emission control studies and two-year leave from Esso R. & E. Co. by the mutual agreement signed on April 30, 1971.  
The key improvements, U.S. Patent 3,672,160, include two-stage combustion, thermo-pneumatic capacitive storage and coupling means.

Self-employed Consulting Engineer, President of Kimat and of Saeilo International, Ltd.,  
Invention and New Products Development activities from January 1972 to Present.

1/73 **Continued study of the Advanced Automotive Power Plant System.**  
Invention and development of **Engine Test Simulator** for ASTM MS Sequence Test V-C for API Service Classification of crankcase oils. Consulting and testing service for experimental oil additives and new formulations, for Dow Chemical and others using the **Engine Test Simulator**.

- 3/75 Formed **KIMAT** to consolidate all efforts on energy/pollution related Alternative Technologies.  
Invention and development of non-polluting paint applicators; **PadGun** (USP 3,918,820), and **Contourmat**, bendable painting pad with reusable handle. Manufactured and marketing of **Contourmat** via mail order.
- 6/77 Established **Kimat Paint**, a paint retail store in Newton, MA, to develop and test market **EcoPainting System** (a completely non-polluting alternative technology for architectural paints, including a new ways of making, packaging, custom tinting, distributing, applying and disposing of architectural paints.
- 11/78 Invention and mail order marketing of **Accu-Temp**, low cost heat loss and draft detector. (USP 4,326,780)  
Invention and development of various other products, such as a safety fuse, low cost solar panel, pool cleaner, component technologies in **EcoPainting System** and the advanced automotive power plant.
- 9/84 Consultant to International Cultural Foundation, New York, NY.  
Voluntary service to oversee construction of the engineering college in Yan Bian University, Yanji City, Korean Autonomous State, Jilin Province, PR of China.
- 3/85 President of Saeilo International, Ltd. of Hong Kong. Resigned 4/89  
Lectured on advanced automotive power plants for faculties of Jilin Industrial University, Chang Chun.
- 2/87 Investigation of rich Otto Cycle Combustion Process under an extremely high pressure.
- 9/87 Commercialization of **Contourmat** (renamed to **EcoPad**) and **Ecopaint**.  
Invention/development of **Kimtainer**, a tamper-proof re-sealable container (USP 4,898,295).  
Manufactured and marketed **Ecopaint** and **EcoPad** in Greater Boston area.  
Develop **EcoBrush** and **EcoBlade** and **EcoHeater**.
- 12/89 Commercialization of **Ecopaint** 16 oz. Semigloss Paint and **Big-Pad**.  
Invented **PadGun** (USP 5,000,602), **JumboPad**, and **EcoPak** (USP 4,977,724 and 5,016,755).
- 6/90 Chairman of Society of Automotive Engineers (**SAE**), NewEngland Section, two terms, 1990-92.  
Invented **Device against Drunk Driving (DADD)**.  
Invention/development of the **EcoBatch** (Retail paint making process for exact amount, color and gloss).
- 8/91 Commercialization of **ACCEPT** (Automatic Computer Controlled EcoPaint Tinter, USP 5,445,195)  
Invention/commercialization of **EcoMix-5** and **OpenNshut** (combination can opener/closer).
- 6/93 Invention/development of **Trayette**, **Wire IDer**, and **Skimat** (compact surface skimmer/spill containment).  
Invention/development and sale of cooling water renovation system.
- 12/97 Development of **EcoHeating System** USP 5,560,350 **Clean Burn System** USP 5,632,210 and **Eco Air Cleaner** USP 5,547,640
- 11/98 Invention/development of **Ice-Scraper** (variable contour ice scraper/squeegee for newer auto).
- 3/01 Invention/development of **Variable contour squeegee safety blade cover**.
- 4/02 Invention/development of **Composite Snowbrush / Mop / Scraper**.
- 8/02 Invention/development of **Cargo Handler for Vehicle with Rear Cargo Space**.
- 4/03 Invention/development of **Baby Safety Mirror**.