

RIT Names Kate Gleason College of Engineering

Rochester Institute of Technology has announced the naming of its engineering school after Kate Gleason, one of the gear industry's pioneering ladies. The daughter of Gleason Corp. founder William Gleason, Kate Gleason went to work for her father at age 11. By 25, she was secretary-treasurer and chief salesperson for the company. She was America's first female engineering student and the first woman to be elected to membership in the American Society of Mechanical Engineers.

"Kate Gleason was a remarkable woman, and her story will be an inspiration to every student, male or female," says RIT president Albert Simone. "She is an example of the determination, hard work and creative spirit that RIT would like to instill in all of our students."

Kate Gleason, who died in 1933, was a lifelong supporter of RIT, and the naming of the school comes shortly after the Gleason Foundation presented \$10 million to the college of engineering, bringing the total contributions to RIT by Gleason family members, the Gleason Foundation and Gleason Corp. to more than \$25 million.

For more information about the life of Kate Gleason see "The First Lady of Gearing" in the September/October 1997 issue of *Gear Technology*.

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Welcome to Revolutions, the column that brings you the latest, most up-to-date and easy-to-read information about the people and technology of the gear industry. Revolutions welcomes your submissions. Please send them to Gear Technology, P.O. Box 1426, Elk Grove Village, IL 60009, fax (847) 437-6618 or e-mail people@geartechnology.com. If you'd like more information about any of the articles that appear, please circle the appropriate number on the Reader Service Card.

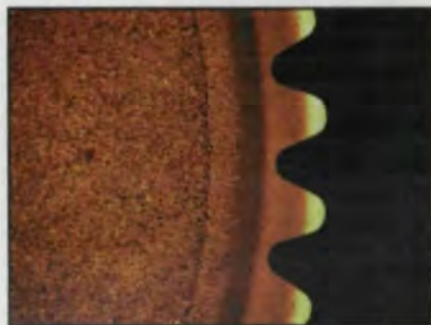
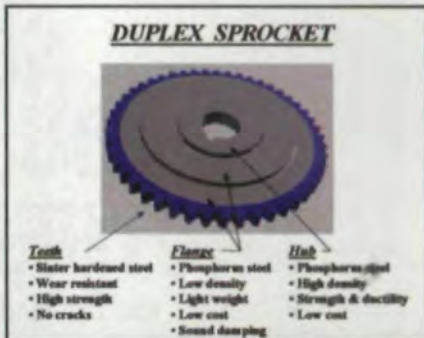
Duplex Sprocket Technology

The 'Duplex' process being developed by Zenith Sintered Products enables the manufacture of sprockets or gears that have reduced weight and rotational inertia, increased sound damping properties and reduced overall costs.

The process uses different materials for the teeth and core, sintering them together into a single component. The teeth require high hardness and strength to transmit torque and resist wear, while the inner core can use a lower-cost, lower duty material. The two materials are simultaneously charged into the tool set and properly distributed to their respective regions.

Zenith has used this patent pending process to produce an engine sprocket with increased tooth strength, compared with conventional parts, and a core that takes advantage of the sound damping properties of low density powder metal materials.

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The Duplex process uses different materials for teeth and core.



Above: Kate Gleason

Left: Fun Fest celebrating the opening of the Kate Gleason College of Engineering

Integrated Surface Finish Software

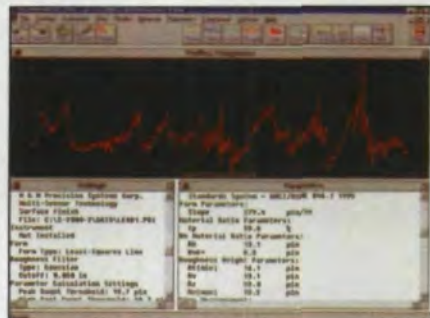
M&M Precision Systems has introduced a multi-sensor technology to its 3500 series metrology system. The new system gives gear manufacturers a tool that can be used for a wide range of external spur and helical gears.

Using a skidded stylus sensor along with an automatic rotating probe, the sys-

tem automatically scans tooth surfaces along the lead and profile path on both flanks and analyzes the surface finish parameters according to ANSI/ASME B46.1.

The sensor and application software are integrated into the M&M system. The software for surface finish analysis runs in the Windows environment.

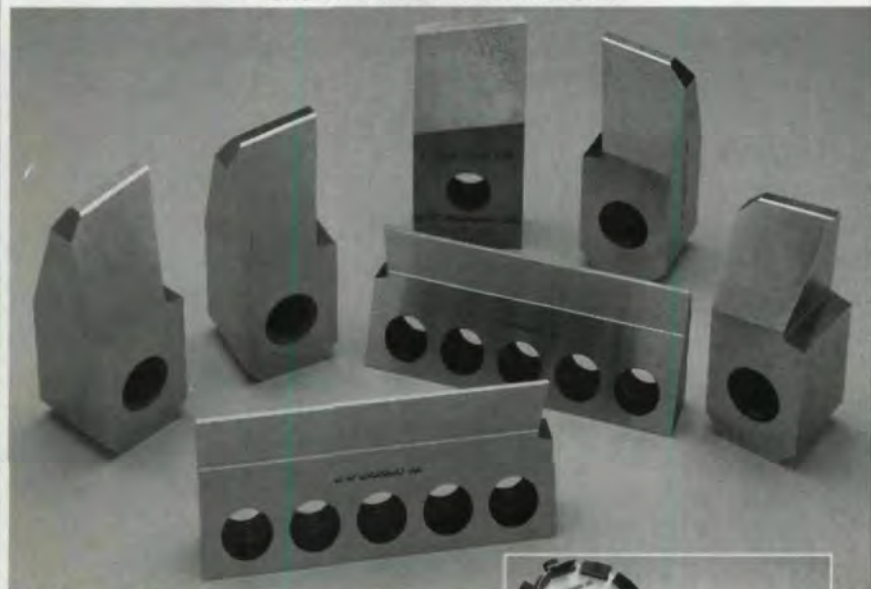
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Integrated surface finish software from M&M Precision Systems.

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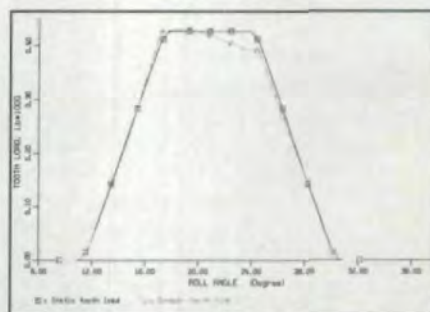
Computing Stresses in Spur Gears

DANST-PC is a computer program for the parametric analysis of the statics and dynamics of spur gear systems. It can be used to predict static transmission error, dynamic load and tooth bending stress as they are influenced by operating speed, torque, stiffness, damping, inertia and tooth profile. DANST-PC performs geometric modeling and dynamic analysis for low- or high-contact ratio spur gears with ratios ranging from one to three.

DANST-PC is based on a four-degree-of-freedom, lumped-mass model of a gear transmission. The model includes driving and driven gears, connecting shafts, motor and load. The equations of motion were derived from basic gear geometry and elementary vibration principles.

DANST-PC is available from COSMIC, NASA's Software Technology Transfer Center, on a 3.5" diskette. Log on to www.cosmic.uga.edu for more information.

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Plot of static and dynamic tooth loads generated by DANST data files.

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