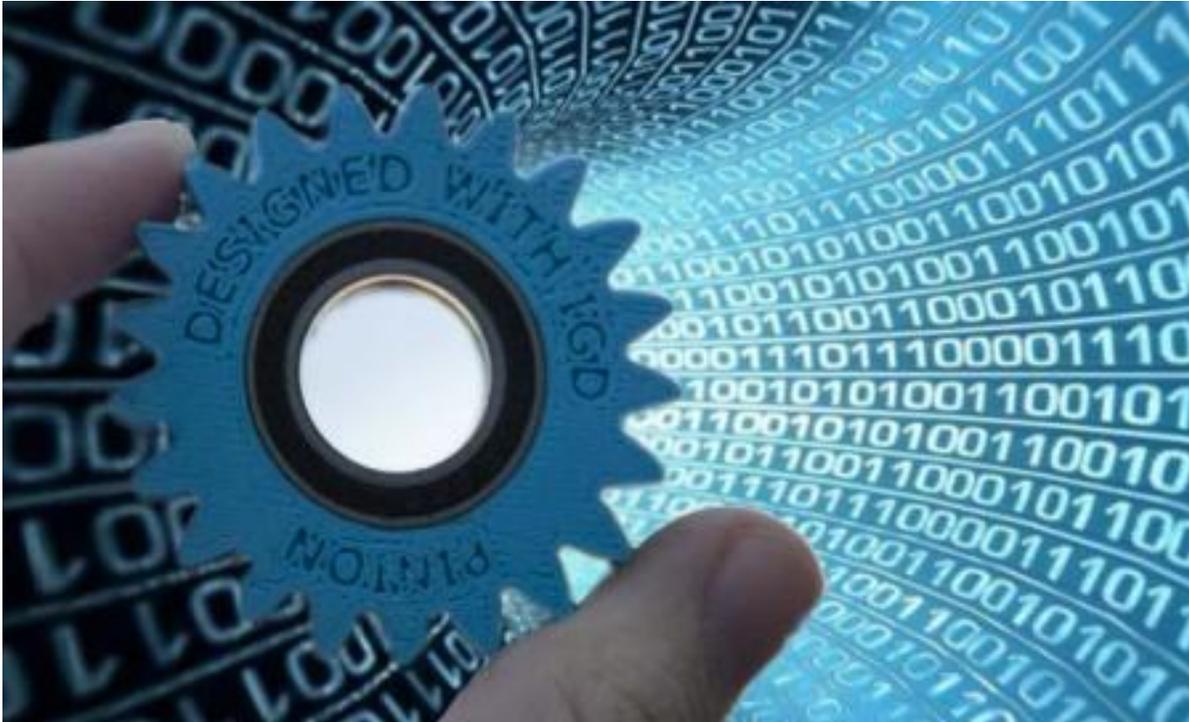




[About us](#)

Led by Dr. Alfonso Fuentes-Aznar, the research performed at the RIT's Gear Research Laboratory is focused on the study of new gear geometries and the development of new methodologies for advanced design, analysis, simulation, and troubleshooting of gear drives. Computational tools to reach these goals are developed. The [RIT's Gear Research Consortium](#) provides the framework for this work, and allow members of the Consortium to access the full capabilities of our software [IGD - Integrated Gear Design](#) - as well as to participate on the configuration of the roadmap of future developments to meet their needs.



[IGD - Integrated Gear Design](#) - is being developed thinking of both, gear design and gear manufacturing. The geometry of gears is obtained using the principles of the modern theory of gearing and the kinematics of the cutting tools exactly as in real production. A complete set of cutting processes and cutting tools are available for gear generation application. The evaluation of the obtained gear geometries is fast and inexpensive. IGD implements a virtual gear generator that models any type of geometry and applies enhanced approaches of tooth contact analysis and finite element modeling. Other tools included in IGD allow us to achieve the optimal design, as for example the module of free-form design for the application of micro-geometry modifications to the gear tooth surfaces or the backlash analysis based on actual geometry and contact analysis.

The Gear Research Lab is poised to contribute to Rochester's long tradition and recognized global leadership in gear design and manufacturing in support of our corporate partners and our community. We are also providing the technical education necessary to ensure the supply of a talented workforce of engineers to support the gear industry. We are always looking for new researchers and the establishment of corporate or academic partnerships. If you are interested in working or collaborating with us, please do not hesitate to [contact us](#).



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