

**CENTER FOR MATERIALS PROCESSING AND TRIBOLOGY
DISTINGUISHED SEMINAR**

It's All about Finishing

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Abstract

As a final manufacturing process for precision component production, the finishing technology is described from various aspects. In the introduction, the functional performance and accuracy of finishing components are discussed, and classifications of the finishing technologies are shown. Then, the fundamentals of finishing are reviewed and comparisons between hard turning and grinding are discussed including their manufacturing costs. Also, the effect of finishing methods on the performance of precision components is provided. Finally, future finishing technologies are proposed.



Bio sketch Dr. Fukuo Hashimoto is president and chief scientist of AFT (Advanced Finishing Technology Ltd.), and retired director and senior scientist - The Timken Company. Throughout his career in production engineering for 40+ years, he has focused on development of advanced manufacturing technology and scientific assessment of new process technologies. He joined The Timken Company in 1988, with prior job experience of associate professor in Tokyo Metropolitan College of Aeronautical Engineering. He obtained a doctoral degree (1984) in Mechanical Engineering from the University of Tokyo with dissertation titled “The Synthesis of Centerless Grinding Process”. He has published over 100 technical papers including 20 CIRP (International Academy for Production Engineering) papers. Most of the papers are related to centerless grinding process, ultra-precision grinding technology and characterization of finished surfaces. He completed the SEP program at Stanford University in 2000. He is a fellow of CIRP and SME (Society of Manufacturing Engineers), and was chairman of CIRP STC-G (Grinding Academy). He has been active in serving the local community as a president of JANO (Japanese Association of Northeast Ohio, USA).

Additional information from S. Chandrasekar (chandy@purdue.edu)