

*Colloquium Jointly Sponsored by the School of Materials Science & Engineering and the
Department of Mechanical Engineering*

Advanced Automotive Materials
and
Surface Treatment for Vehicle Weight Reduction

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Abstract

While the specific strength of light weight materials exceeds that of high strength steels, their elastic modulus remains approximately half that of steel. Therefore, weight savings expected through substitution of light weight materials in automotive components are not as great as might be expected.

This seminar will provide an overview of some of the activities underway within the Toyota Central R & D Laboratory examining new automotive materials and surface treatments aimed at reducing automotive vehicle weight. These include recent developments in high modulus steel (HMS), TiB reinforced titanium metal matrix composites, low elastic modulus/high strength titanium (Gum Metal), high fatigue strength aluminum alloy, advanced materials for turbo chargers and DLC-Si coating.

Biography

Dr. Tadahiko Furuta graduated from Suzuka College of Technology in 1982 and Air University in 2005. He has been with Toyota Central R & D Labs., Inc. since 1982 with more than ten years experience in development of advanced metallic materials for automobile application.

Thursday, September 29, 2005
5:00 PM - Room 200 - Olin Hall
Refreshments Following Seminar