

UNIVERSITY OF TEXAS AT DALLAS
SCHOOL of NATURAL SCIENCES and MATHEMATICS
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COLLOQUIUM

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Hoblitzelle Hall Auditorium, HH 2.402

The Art and Science of the Motorcycle

Professor Charles Falco

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In 1871 Louis Guillaume Perreaux installed a compact steam engine in a commercial bicycle, and thus produced the world's first motorcycle. Subsequently, thanks to a period of extraordinarily-rapid technological advance, by 1903 essentially all the components of a modern motorcycle were in place, and changes to the motorcycle since then have been largely the result of evolutionary refinement rather than revolutionary invention.

Like many other objects of industrial design, motorcycles have played a variety of roles in society over the 135 years since the Michaux-Perreaux. This talk examines the interrelationship of the relevant technological, cultural, and aesthetic factors over the past century that have, amongst other things, resulted in standard production motorcycles -- incorporating such materials as carbon-fiber composites, maraging steels, and "exotic" alloys of magnesium, titanium and aluminum -- that can exceed 190 mph straight from the show room floor. (For more information see <http://www.optics.arizona.edu/ssd/aotm.html>)

About the speaker: Dr. Charles Falco is a Professor of Optical Sciences at the University of Arizona where he holds the UA Chair of Condensed Matter Physics. He is a Fellow of the American Physical Society, the Institute of Electrical and Electronics Engineers, and the Optical Society of America, has published more than 250 scientific manuscripts, most of which are related to various physical properties of thin film materials, co-edited two books, has seven U.S. patents, and has given more than 200 invited talks on his research at conferences and research institutions in some 20 countries. However, in addition to his scientific research, in 1998 he was co-recipient of an award from the AICA for his work as co-curator of the Solomon R. Guggenheim museum's "The Art of the Motorcycle," for which he also wrote the exhibition catalog's introductory essay and bibliography. With over 2 million visitors thus far in New York, Chicago, Bilbao, and the Guggenheim Las Vegas, it is by far the most successful exhibition of industrial design ever assembled, and is the 5th most attended museum exhibition of any kind. More recently, a collaboration with the artist David Hockney that found artists of such repute as van Eyck, Bellini and Caravaggio used optical projections in creating portions of their work has resulted in widespread coverage in the popular media, including an hour-long BBC special and a segment on CBS '60 Minutes', and over 70 invited talks and public lectures on this topic in eleven countries.