

Munish Sood Mandi

AEROSPACE STUDIES

The man who created indigenous IR Signature Suppression System (IRSS) for the engine exhaust duct and plume of the Advance Light Helicopter, Prof Shripad P Mahulikar, is in Mandi these days. He is on deputation at IIT, Mandi, where he is sharing his various research works in the field of aerospace and air power systems with the students.

Prof Mahulikar has published more than 45 papers in leading international journals on various topics in the generic fields of Heat Transfer and Thermodynamics. Based on his consistent academic research output, Prof Mahulikar has also been awarded the prestigious Humboldt Fellowship in Germany thrice in the year 2003, 2007 and 2009



PROF SHRIPAD P MAHULIKAR, A RENOWNED PROFESSOR FROM IIT MUMBAI, IS ON DEPUTATION AT SCHOOL OF ENGINEERING, IIT, MANDI. HIS EXPERIENCE IN THE FIELD OF AEROSPACE STUDIES IS HELPING THE STUDENTS IN A BIG WAY

The 'air power' man

respectively.

He received the Outstanding Reviewer Award for ASME Journal of Heat Transfer in 2007 and was appointed as Mercator Chair Professor in TU Hamburg, Germany from December 2011 to January 2013, on a break from IIT Bombay.

The ground testing of his

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IRSS system was done at Hindustan Aeronautics Limited, Bangalore, where he successfully demonstrated that the indigenous IR-suppressor far exceeds the performance of a helicopter as compared to the foreign candidate.

Prof Mahulikar gained international attention for infrared signature prediction, analysis, and suppression, due to his 15 research papers in this field, which were published in leading international journals.

"At present I am pursuing research on IR signature analysis of aircraft and helicopter for assessing and reducing their susceptibility to IR-guided missiles. Me and my research students developed theoretical and numerical models for predicting IR signatures of aircrafts etc," shares the researcher.

Elaborating his research work he says, "Passive infrared (IR) detection or tracking is superior in tactical warfare because the target is unaware of being de-

AWARDS AND ACCOLADES

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tected which reduces the reaction time for initiating countermeasures. More than 90 per cent of aircraft and helicopters lost in tactical warfare since 1967 were destroyed by IR-guided heat-seeking missiles".

He puts in, "Availability of portable shoulder-launched IR-guided missiles (MANPADS) to terrorist organisations is a matter of concern to the armed forces as we witnessed the lethal role of Stinger missile in the Kargil War (1999). These MANPADS prove to be espe-

cially lethal against low flying aircraft and helicopters and for their flight in mountainous terrain." Over 40 civilian aircraft have also been hit by MANPADS since 1970, causing 25 unserviceable crashes, he added.

Prof Mahulikar who is presently working in IIT Mandi on deputation, joined the Defence Research and Development Organisation after completion of his MTech degree from IIT, Mumbai. He has worked at Defence Research and Development Organisation for 4 years as Scientist and later migrated to Australia to work as a Research Associate in ANU Canberra on a joint project with NTU Singapore.

Prof Mahulikar obtained PhD in Micro-Convective Flow from NTU Singapore in August 1999, and joined IIT Bombay in the Aerospace Engineering Department as an assistant professor in January 2000. He was promoted professor of Aerospace Engineering in IIT Bombay in March 2009.