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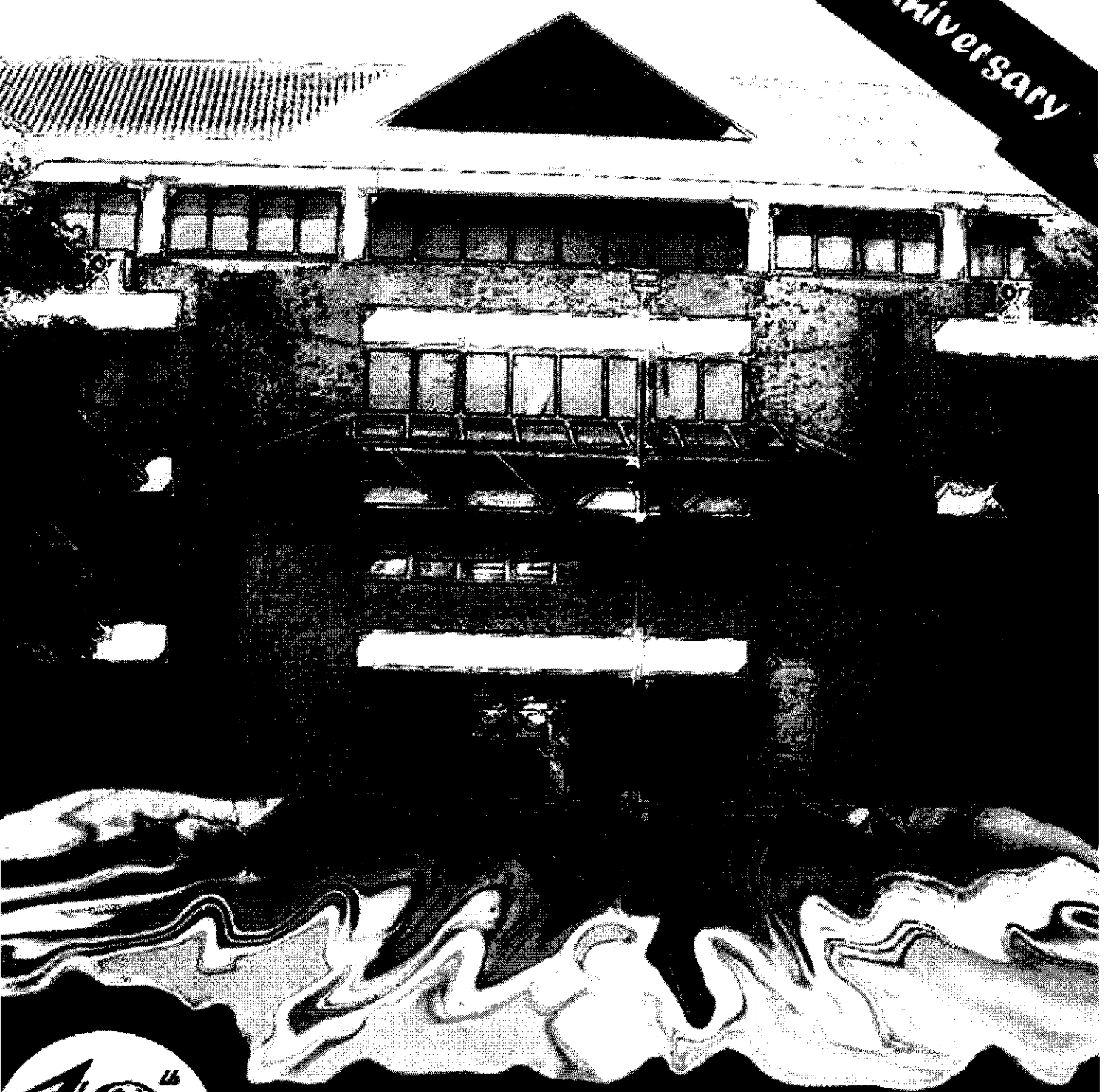
23 – 24 JULAI 2009
DI KHON KAEN, THAILAND

DR. T. NATARAJA MOORTHY

10th anniversary



Faculty of Engineering
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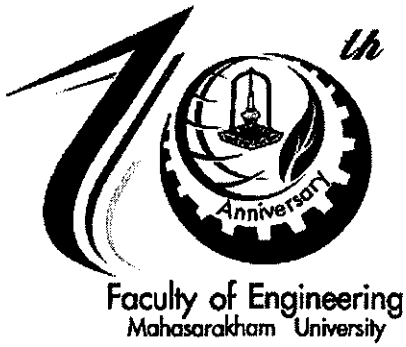
T. Natakorn Modelling



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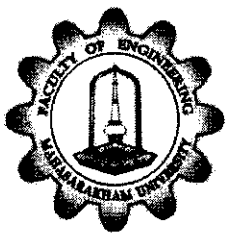
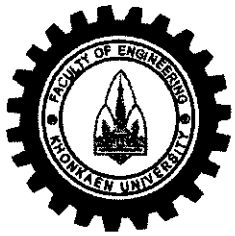

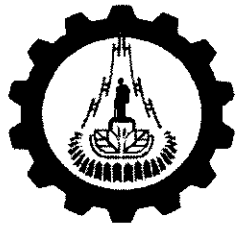

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Forensic Engineering in Crime Scene Investigation

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ABSTRACT

Forensic Science is the application of science to crimes that are enforced by the police agencies in a criminal justice system. Forensic engineering is the application of engineering principles and methodologies to answer questions of fact. These facts are usually associated with road accident reconstruction, industrial accidents, failure analysis and cases involving fire and explosion. Initially, only the end result is known. This might be a burned-out house, damaged machinery, collapsed structure, wrecked vehicle, fire or explosion site. Forensic engineering is similar to failure analysis and root cause analysis with respect to the science and engineering methodologies employed. Often the terms are used interchangeably. In a laboratory setting, it is usual to design experiments where the variable being studied in not obscured or complicated by other effects acting simultaneously. The variable is singled out to be from other influences. Various experiments are then conducted to determine what occurs when variable is changed. Numerous tests of the effects of changing the variable provide a statistical basis for concluding how the variable works, and predicting what will occur under other circumstances. In any crime like accident, or failure events could be experimentally duplicated or reconstructed, the most challenging forensic investigations are fire investigation and explosion investigation. They are challenging because most of the physical evidences have been destroyed by fire and explosion. Forensic engineering is an important area in the field of forensic science and I present here some of the incidents in which forensic engineering principles can be applied for deciphering the crux of the cases.

Keywords: Forensic engineering, crime scene investigation, explosion, fire