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Titolo	Thought-Evoking Approaches in Engineering Problems // edited by Yoshimo Ito
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Descrizione fisica	1 online resource (302 p.)
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Soggetti	Engineering design Management Industrial management Engineering Design Innovation/Technology Management
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	1. Tangential Force Ratio and Its Applications to Industrial Technologies – Anti-vibration steel plate for refrigerator and derailment of rolling stock -- 2. In-process Measurement for Machining States – Sensing technology in noisy space -- 3. Ultrasonic Waves Method for Interface Pressure Measurement – What is Acceptable Definition of Interface Pressure -- 4. The Painless Injection Tube – From bio-mimetic technology to medical engineering -- 5. Water-jet Machining and Its Applications - Relaxation of stress concentration in cylindrical roller bearing and preferable finish of artificial joints -- 6. Heat Sinks in Computers -- 7. Noise, Vibration and Pulsation Problems in Oil Hydraulic Components and Systems -- 8. Design and Development of Construction Equipment -- 9. Remanufacturing in Machinery – Reuse and Disposal of Swarf -- 10. Similarity Evaluation for Flexible Manufacturing Cell – An Interesting Application of Graph Theory to Manufacture -- 11. Model Determination for Production Activities

within Enterprise – A Challenging Trial for Virtual Concentration of Production Bases -- 12. Leverage between Industrial and Engineering Designs in Enclosure of Machine Tools -- 13. Clarification for Essential Features of Scraped Slide way by Step-land Bearing Model - Conversion of Skilled Craft to Industrial Technology.

Sommario/riassunto

In creating the value-added product in not distant future, it is necessary and inevitable to establish a holistic and thought-evoking approach to the engineering problem, which should be at least associated with the inter-disciplinary knowledge and thought processes across the whole engineering spheres. It is furthermore desirable to integrate it with trans-disciplinary aspects ranging from manufacturing culture, through liberal-arts engineering, and industrial sociology. The thought-evoking approach can be exemplified and typified by representative engineering problems: unveiling essential features in 'Tangential Force Ratio and Interface Pressure', prototype development for 'Bio-mimetic Needle' and application of 'Water-jet Machining to Artificial Hip Joint', product innovation in 'Heat Sink for Computer', application of 'Graph Theory' to similarity evaluation of production systems, leverage among reciprocity attributes in 'Industrial and Engineering Designs for Machine Enclosure', and academic interpretation of skills of mature technician in 'Scraping'. The book is intended to cultivate the multi-talented engineer of the next generation by providing them with the future perspective and ideas for challenging research and development subjects.
