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Nota di contenuto	Part I:Dicsussion document and Study Report -- Discussion Document (appeared in L'Enseignement Mathématique and ZDM 2009) -- Report on the Study (by the editors) -- Part II: Plenary and Invited Lectures -- Getting Math Off the Ground: Applied Mathematics at Boeing -- Mathematics in the Workplace: Issues and Challenges -- Mathematical Modelling Education is the Most Important Educational Interface between Mathematics and Industry -- Models for Industrial Problems: How to find and how to use them – in industry and in education -- Interfacing Educational & Research with Mathematics-for-Industry: The Endeavour in Japan -- Part III: WG Education/training with industry participation -- Report on the Working Group -- How is it Possible to Make Real-World Mathematics More Visible: Results From Italian Projects -- Project "Ways to More MINT-graduates" of the Bavarian Business Association with Focus on Mathematics at the University of Augsburg, Germany -- Mathematics in a Safety-Critical Work Context: The Case of Numeracy for Nursing -- Linking Professional Experiences With Academic Knowledge. The Construction of Statistical Concepts by Sales Manager Apprentices -- Learning Conversation in Mathematics Practice – School-Industry Partnerships as an Arena for Teacher Education -- The Threefold Dilemma of Missing Coherence -- The

Project “Mathe-Meister” — A Mathematical Self Assessment Centre With Diagnostic Feedback For Vocational Trainees -- Part IV:WG University & academic technical/vocational education -- Report on the Working Group -- Mathematics for Engineering and Engineering for Mathematics -- Laboratory of Computational Mathematics: an interface between academia and industry -- Improving the industrial/mathematics interface -- Two masters on Mathematics for Industry at the Universities of Paris and of Pau -- Mathematics in Industry and Teachers Training -- Interfaces between Mathematics and Industry and the Use of Technology in Mathematics Education in India.- Modeling “Modeling”: Developing Habits of Mathematical Minds -- The evolution of graduate applied math courses in the Institute of Mathematics, University of the Philippines -- The Vertical Integration of Industrial Mathematics the WPI Experience -- Part V: WG Education in Schools -- Report on the Working Group -- Mathematical applications, modelling and technology as windows into industry based mathematical practice -- Mathematics Education and the Information Society -- Authentic Complex Modelling Problems in Mathematics Education -- Embedding Authentic Real World Tasks into Secondary Mathematics Curricula -- Drawing on understanding of workplace practice to inform design of general mathematics curricula -- Part VI: WG Mathematics-Industry Communication -- Report on the Working Group -- Engineering, Mathematics communication and Education: reflections on a personal experience -- A View on Mathematical Discourse in Research and Development -- Using Popular Science in a Mathematical Modeling Course -- Part VII:WG Technology issues -- Report on the Working Group -- Tackling the challenges of computational mathematics education of engineers -- Computational modelling in science, technology, engineering and mathematics education -- Incorporating the Ideas and Methods of Mathematical Modelling into Calculus Teaching -- Part VIII:WG The mathematics-industry interface -- Report on the Working Group -- Part IX: Selected Papers linked to more than one Working Group -- Using spreadsheets in the finance industry -- MITACS ACCELERATE: A Case Study of a Successful Industrial Research Internship Program -- A Meta-analysis of Mathematics Teachers of the GIFT Program Using Success Case Methodology -- Cultivating an Interface Through Collaborative Research between Engineers in Nippon Steel and Mathematicians in University -- An Introduction to CUMCM: China/Contemporary Undergraduate Mathematical Contest in Modeling -- Part X:Conclusion -- Conclusion.

Sommario/riassunto

This book is the “Study Book” of ICMI-Study no. 20, which was run in cooperation with the International Council for Industry and Applied Mathematics (ICIAM). The editors were the co-chairs of the study (Damlamian, Straesser) and the organizer of the Study Conference (Rodrigues). The text contains a comprehensive report on the findings of the Study Conference, original plenary presentations of the Study Conference, reports on the Working Groups and selected papers from all over the world. This content was selected by the editors as especially pertinent to the study, each individual chapter representing a significant contribution to current research. .