

Industry-Supported Projects: Research and Advanced Education Programs in the Field of Friction Materials Engineering

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One of the most challenging problems that engineering educators face today is how to prepare the engineer for a rapidly growing instrumental basis for analysis and quality control of materials. The advanced engineering courses are usually organized in such a way that the analytical work is only briefly demonstrated, since there is only a limited or no space for operational practice on the modern sophisticated analytical instruments. Therefore, an advanced research team able to solve the more complex and sophisticated problems of industry was established in 1999. The research team activities were oriented on the analysis and quality control of automotive brake composite materials. Prospective advanced M. Sc. and Ph.D. students and employees from industry participated in the research work along with the experienced faculty members and the technical experts from industry. In this way, the students were introduced to the complex working environment and gained a unique experience from the university-industry problem solving teamwork. The involved university administration, the faculty members and the industry management as well as the technical experts also significantly benefited from this type of collaboration.