

AUTOMOTIVE

A RESEARCH INITIATIVE OF THE OTTO-VON-GUERICKE UNIVERSITY MAGDEBURG

by *Helmut Tschöke, Roland Kasper (p. 3)*

The technical faculties of the Otto-von-Guericke University Magdeburg concentrate its research activities in the sector of automotive engineering in a new research initiative „Automotive“. Therewith the basic research, the teachings as well as the application-oriented research and development and the knowledge transfer for and into the economy on the area of the automotive engineering will be upgraded to improve the research structure of the country and the university.

THE VALUATION OF INVESTMENT CERTIFICATES

by *Peter Reichling (p.9)*

Currently, investment certificates are one of the most popular investments for retail investors at the German capital market. The market for investment certificates grew by 70 percent annually during the past two years and belongs to the fastest growing capital market segments in Germany. An overview of the basic forms of the confusing variety of different types of investment certificates helps investors who are interested in such certificates to make their investment decisions. Knowing the components and structure of investment certificates enables investors to value these contracts. This is done by constructing the corresponding duplicating portfolios, consisting of the underlying assets, zero bonds, and options, that replicate the pay-off of the investment certificate in each case.

However, the latest issues of investment certificates tend to be less transparent for retail investors and, therefore, are difficult to duplicate. This must not contradict the interests of the issuers. By constructing sophisticated investment certificates, issuers try to offer tailored products to their customers and, therefore, acquire a quasi-monopolistic position in the market with an accordingly high margin.

THE HUMAN TOPONOM PROJECT: DECIPHERING OF PROTEIN NETWORK CODES OF CELLS AND TISSUES

by *Walter Schubert (p.18)*

The toponome is defined as the entirety of the molecular networks in cells and tissues. It contains the total functional plan (the biological code) for the myriads of different cellular functionalities. To completely decipher the toponome is one of the biggest challenges in the post genome era, because only the precise knowledge of the functional interdependency of the proteins and the underlying rules will permit to understand the mechanisms of malfunction in diseases. Worldwide networking of toponome researchers in different areas of biomedicine will promote the goal of deciphering the human toponome.

THE SAFETY OF ELECTRICITY

NETWORKS TODAY AND IN THE FUTURE

by *Zbigniew A. Styczynski, Antje Orths, Rainer Krebs (p. 24)*

Today, electric energy systems are in the scope of public debate. A disturbance in this critical infrastructure can lead to enormous damage within a society. New renewable energy resources, as e.g. wind generators, supply an increasing share of electrical energy at grid nodes, which originally have not been designed for this purpose. The Otto-von-Guericke University Magdeburg executed a lot of scientific work together with its partners as e.g. Vattenfall Europe Transmission, Siemens AG or Energinet.dk (Denmark), searching for new, problem oriented and intelligent methods which allows optimal planning and operation of the future's power system (Smart Grid).

HONORARY DOCTORATE PROF. DR. DR. H.C. JAN PHILIPP REEMTSMA

by *Georg Lohmann, Jan Philipp Reemtsma (p. 32)*

On November 20th 2007, Prof. Dr. Dr. h.c. Jan Philipp Reemtsma was awarded the honorary doctorate by the faculty of humanities, social sciences and educational sciences in Magdeburg. The faculty so cherishes an outstanding academic who advances the humanities across disciplines and opens them to a broad public. His academic attainments and his intellectual commitment can be recommended to students as a role model without any reservations. In his acceptance speech, which is printed here, Reemtsma asks provocative: „humanities – would we miss them?“ and points out the fact that we could not exist as cultivated mankind, if we would not miss them.

A HONOURABLE COUNCILLOR WILL OBSERVE THE COMMON CITY'S BENEFIT –

A NEW ACQUIRED GERICKE LETTER FROM THE WESTPHALIA PEACE CONGRESS IN OSNABRÜCK DATED FROM 7/17 DECEMBER 1646

by *Rudolf Engelhardt, Ditmar Schneider (p. 38)*

More than sixty years after the end of the Second World War institutions of Magdeburg acquired two personally signed Guericke letters. One of the letters, which was purchased by the Otto-von-Guericke University Magdeburg and which comes demonstrably from the Adam collection, is presented here. The letter was written in Otto Gericke's residence in Osnabrück from where a second copy was sent to an unknown addressee. The letter was drawn up at the beginning of Guericke's seventh diplomatic mission, his probably most important of 17 missions altogether, where he as a participant of the Westphalia peace congress in Münster and Osnabrück could achieve the inclusion of important demands of the Alte Stadt Magdeburg into the Instrumentum Pacis Westphalicae.