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Leipzig, Einstein, diffusion—a multidisciplinary, multicultural not-just-random walk through Leipzig and the history of diffusion research

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In addition to some excellent scientific contributions, participants of the special adsorption sessions which were dedicated to Jörg Kärger and Douglas Ruthven, held at the 58th Canadian Chemical Engineering Conference held in Ottawa in October 2008, also received a very special book present titled "Leipzig, Einstein, Diffusion".

The production of this book in 2005 was one of the unusual out-of-the-box projects inspired by the "World year of physics 2005". 2005 did not only mark the centennial of Einstein's famous paper on the theory of Brownian motion (actually just one of the papers making 1905 Einstein's "annus mirabilis") but at the same time the 150th birthday of Adolf Fick's pioneering works in which he described the findings that are nowadays known as "Fick's laws". As both these papers were printed in Leipzig—Fick's in the venerable "Poggendorf'sche Annalen der Physik und Chemie", Einstein's in the "Annalen der Physik"—the old connection of Leipzig and diffusion research provided yet another reason to explore the history of diffusion research under a special Leipzig perspective.

And there is of course also the more recent tradition of pioneering diffusion research in Leipzig which was started by Harry Pfeifer and Arthur Lösche after the Second World War and was further developed by Jörg Kärger with his great theoretical and experimental work on pulsed field gradient NMR and other techniques to explore the mechanisms of diffusion in zeolites and other porous media from molecular up to macroscopic length scales.

This tradition of diffusion research made Leipzig also the natural starting point for the "Diffusion Fundamentals" conference series which was initiated there in 2005 and was continued 2007 in L'Aquila/Italy and 2009 in Athens/Greece. The next conference is planned for August 2011 in Troy/NY.

Taking up Leipzig's great science publishing tradition, the first "Diffusion Fundamentals" conference was accompanied by two unique scientific publication projects: The start of the "Diffusion Fundamentals" online journal, a fully open-access, refereed journal which has since then become an important platform for the publication of diffusion-related research results (http://www.uni-leipzig.de/diffusion/) and a proceedings volume in which the conference abstracts were accompanied by some basic and some specialized full-length papers on diffusion by the main speakers of the conference. In addition to those insightful scholarly articles, this proceedings book was optically enriched by reproductions of aquarelle vistas of Leipzig painted by Taro Ito, a diffusion researcher from Sapporo, Japan with a long history of scientific visits to Leipzig.

Nevertheless, the book produced for the "Diffusion Fundamentals" still was a proceedings volume and as such firmly linked to the conference. Making the aquarelles and the general papers on diffusion available to a wider scientific audience was one of the main motives to produce "Leipzig, Einstein, Diffusion". In addition to the selection of full papers on the early history of diffusion research, the basic physics of diffusion and the relevance of diffusion effects in various fields ranging from chemical engineering to ecology and cultural studies, special articles on physics research in Leipzig around 1905 and the more recent history of diffusion research in the "Leipzig school" of diffusion were included in the book. Especially the account on physics in Leipzig at the time of Einstein contains some interesting and quite unknown details. For example Ludwig Boltzmann's time as the first professor of theoretical physics ever appointed at the University of Leipzig. Also, Einstein had ap-

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plied several times, in vain, for scientific assistant positions at the University of Leipzig. Ironically, the same colleagues who had turned down those applications later were strong supporters of his nomination for the Nobel price!

A special goodie of "Leipzig, Einstein, Diffusion" is the way it is written as a bilingual book in both English and German—the great languages of scientific publishing today and back in Einstein's days. The texts in both languages were carefully written or translated by native speakers (Jörg Kärger and Douglas Ruthven). Thus, the level in style and language quality is high and the reader has one of the rare opportunities to learn good scientific style and writing practice in both languages from the example of two great scientists.

A new edition of "Leipzig, Einstein, Diffusion" is presently under preparation at Leipzig University Press (Universitätsverlag Leipzig) and will be available by the end of 2009. The projected price is 19.50 Euro.