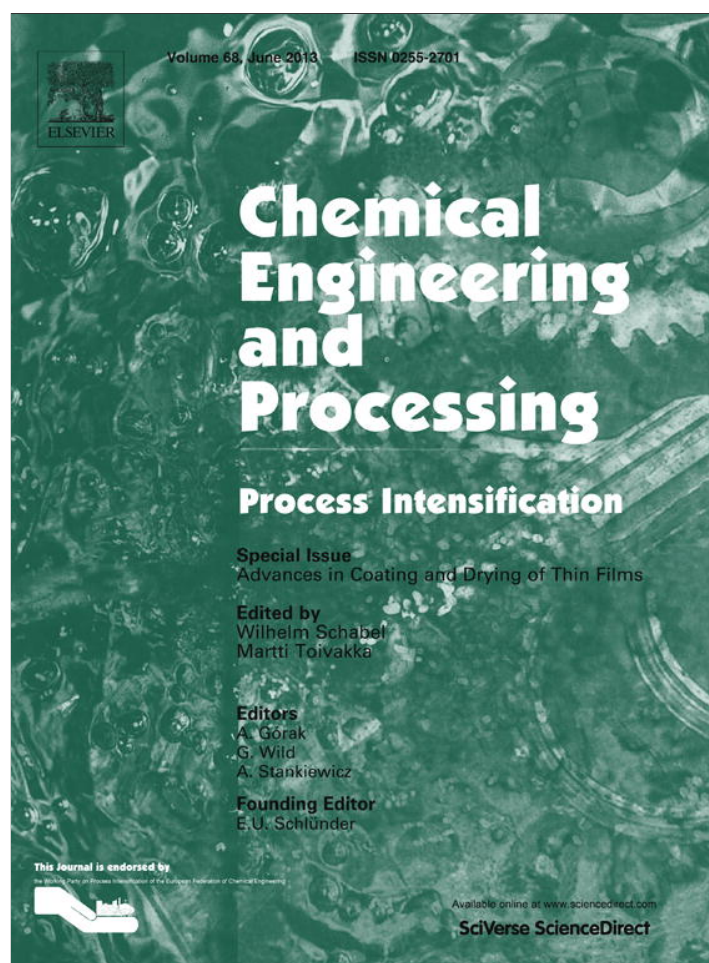


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Editorial

Guest editorial to this special issue

About 140 experts from academia, research institutes and industry representing 20 countries gathered on June 8–10, 2011 in Åbo/Turku for the 9th European Coating Symposium (ECS11). The symposium was organized by the Laboratory of Paper Coating and Converting, Åbo Akademi University and chaired by Prof. Martti Toivakka. The aim of the meeting was to present and discuss latest advancements in liquid film coating science and related processes. The symposium consisted of 18 sessions, with 70 oral presentations and 26 posters, focusing on both fundamental science on wetting, drying and colloidal phenomena, and on applied research on topics such as thin film technology, printed electronics and specialty coatings.

A short course in coating technology, *Coating and Drying of Thin Films – Fundamentals & Applications with a Special Topic on Printed and Organic Electronics*, was organized from the two groups from Karlsruhe and Turku in conjunction with the symposium. Special thanks to the lecturers of the course for the contributions which helped to support the ECS Symposium overall budget: Many thanks to Prof. Hadj Benkreira (Univ. of Bradford), Dipl.-Ing. ETH Gilbert Gugler (ILFORD), Prof. Wilhelm Schabel (KIT), Dr. Philip Scharfer (KIT), Dipl.-Ing. Benjamin Schmidt-Hansberg (KIT), Dr. Peter M. Schweizer (POLYTYPE), Ir. Ike de Vries (HOLST), Dipl.-Ing. Lukas Wengeler (KIT) and Prof. Ronald Österbacka (Åbo Akademi Univ.).

This CEP Special Issue *Advances in Coating and Drying of Thin Films* includes papers selected by the Scientific Committee based on the extended abstracts and the presentations at the ECS11. The authors were invited to submit full papers for a complete peer-review for consideration to the special issue. The final decision for

the inclusion in the special issue has been strictly based on the outcome of the review process. The goal of the special issue is to make available and report recent results in the field of coating science to the research community.

As managing guest editor and guest editor, we would like to express our thanks to the Editor Prof. Gabriel Wild for providing the opportunity to host this CEP special issue. We also thank the authors for their contributions. We thank the ECS Scientific Committee and many reviewers from the ECS and ISCST community providing evaluations and recommendations. Last but not least, we would like to thank Sibylle Kachel (KIT) and Susanna Baesch (KIT) (PhD students in Karlsruhe) for their work and all the efforts to bring this Special Issue to a success including extensive correspondence with Elsevier employees and all the reviewers.

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Dedication to Holger Martin from Ernst-Ulrich Schlünder and Wilhelm Schabel

We would like to dedicate this Special Issue to Holger Martin, Professor in Karlsruhe, on the occasion of his 70th birthday (celebrated in December 2012). We would like to address some personal words to him:

Holger Martin, the generalist and perfectionist

It is a great pleasure for me to dedicate and address this special issue to my friend Holger Martin at the occasion of his 70th birthday. Holger and I worked together closely, both in research and teaching for more than 40 years as members of the "Institut für Thermische Verfahrenstechnik der Technischen Hochschule (TH) Karlsruhe."

During this period, which lasted for more than one generation, we mutually inspired each other to generate new conceptual ideas in the fields of heat transfer, mass transfer and fluid flow.

When pursuing these ideas, Holger combined intuition, logical strength and mathematical skills to generate new theories as well as suitable equipment as to their experimental verification. Many publications, scientific papers and books, give evidence of his outstanding contributions to various fields of Chemical Engineering. Some highlights, standing for many more, may be mentioned:

- Heat transfer under impinging jets ("Martin equations"), now industrial standard.
- Heat transfer in fluidized beds, an analogy to the kinetic theory of gases
- Heat transfer and fluid flow, an extended Leveque-analogy, covering both laminar and turbulent flow in a unique manner

I do not promise too much when I say that these papers will last forever!

This may be considered as the highest degree of appreciation. Last not least: Holger has proven himself to be not only an outstanding engineering scientist but also as a multilingual poet.

In the meantime he has generated more than 700 Limericks and earned the degree of a Rhyme Master of OEDILF. This is an example tracing back to the origin of Chemical Engineering and also showing Holger's humor and profound knowledge of history:

Michael Faraday's¹ lectures won't dandle
Young people, but help them to handle,
In practice, the trick
That is done by the wick
When we light up a stick of a **candle**.

This address shall highlight my friend Holger's unique gift of being both a generalist and a perfectionist, which I have always admired.

I wish him many more years to go in good health and vivid activities.

Ernst-Ulrich Schlünder, Karlsruhe 2013

Holger Martin is a well-known name, particularly in the coatings community, associated with dryer design with impinging nozzles. Many people might not believe that he only celebrates his 70th birthday, since he published those most cited and famous papers such as "Heat and Mass Transfer Between Impinging Gas Jets and Solid Surfaces" already in the early 1970s². Today these equations are established worldwide as "Martin equations" and became an industrial standard. They are used for the proper design of impinging jets, where they specify criteria and rules for nozzle spacing and optimum distance to web in industrial impingement dryers.

Personally, I would like to thank Holger for teaching me in the early days, when I was a student in Karlsruhe, for supporting me during the last years and for giving me the chance to continue part of his activities in the field of impinging jets research³.

Willi Schabel, Karlsruhe, April 2013

¹ The famous English physicist and chemist Michael Faraday (1791–1867) published a booklet entitled *A Course of Six Lectures on the Chemical History of a Candle* – Delivered before a Juvenile Auditorium of the Royal Institution of Great Britain during the Christmas Holydays of 1860–1.

² H. Martin, Heat and mass transfer between impinging gas jets and solid surfaces, *Advances in Heat Transfer*, Irvine, In: J.P. Hartnett, Th. F. (Eds.), vol. 13, Academic Press, New York, 1977, pp. 1–60.

³ H. Martin, W. Schabel, Impinging jets, HEDH Heat Exchanger Design Hand Book (new edition/2013).