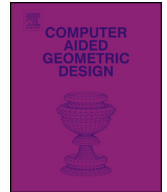




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# Computer Aided Geometric Design

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## In memoriam Gerald Farin

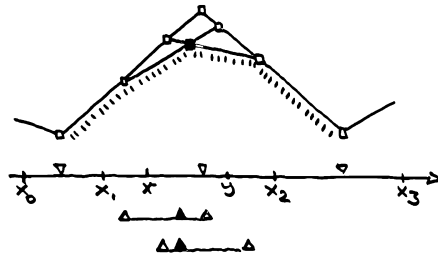


When Gerald Farin passed away on January 14, 2016, CAGD lost its preeminent editor. Gerald was a founding member of the editorial board in 1984, and, starting in 1989, he served as executive editor. His tireless efforts contributed much to the success of the journal, increasing its number of issues per year from four to six in 1990 and further to nine issues from 1995 onwards. In 1993 Gerald was elevated co-editor-in-chief, a post that he held until the end of 2014. Gerald's critical role in shaping the reputation of CAGD becomes clear by the sheer number of papers he handled, until 2002 still as paper copies. As co-editor-in-chief Gerald covered two thirds of all submissions from 1993 until 2014.

Gerald Farin was born on March 20, 1953 in Angermünde, a small town in East Germany close to Poland. In 1960, a year before the Berlin wall was built, his parents moved to Lingen, in West Germany close to the Netherlands. Farin studied Mathematics in Braunschweig from 1971–1977. Supervised by Wolfgang Boehm, he wrote a Master's thesis on Bézier curves and surfaces. He defended his dissertation "Subsplines über Dreiecken" in 1980. Remarkably, during his graduate time, Gerald also worked in Utah, as teaching assistant, and later with John Gregory at Brunel as research fellow. With this broad formation, Gerald's sense for constructive geometric reasoning and aesthetic graphical minimalistic lucidity nevertheless clearly identify him as a member of Boehm's "Braunschweig School". Notably, the inaugural survey article of CAGD in 1984, by Boehm, Farin and Kahmann, remains a much-read widely-cited introduction to Computer Aided Geometric Design. This expository and inviting style can be seen throughout Gerald's work. As a close colleague to Bob Barnhill in Utah and a PhD student of Wolfgang Boehm, Gerald acted as a crucial catalyst who not only contributed his own ideas but provided critical communication between the founding editors.

From 1990 to 1994 Gerald disseminated new CAGD techniques in industry, working as senior CAD/CAM developer with Mercedes-Benz on their SYRKO system. The offer of a faculty position returned him to Utah, but he soon moved with Barnhill's group to Arizona State University. In 1992 he married Dianne Hansford his co-author of three books, co-founder of the consulting company NURBS Depot and one of the three co-founders of 3D Compression Technologies (3DCT).

Example:  $n=2$



An overhead projector slide that Gerald Farin sketched during a plane ride in 1986. It explains the commutativity of spline knot insertion.

Being close to key people in CAGD, having worked in industry both as employee and consultant, and contributing to the field of CAGD from the outset, Gerald shaped the field of CAGD. Key to his impact were Gerald's lucid style, and unique communication abilities, his humor and integrity, that also showed in more than 100 authored or co-authored research papers. In particular, he was an early contributor to the theory of triangular patches, geometric continuity, rational splines, fairing, variational design, and meshing techniques. Gerald also organized numerous conferences, wrote a number of influential survey papers, including the mentioned seminal 1984 survey, and authored, co-authored, edited and co-edited 29 books counting all their editions and translations. These include his much-read and referenced text book "Curves and Surfaces for CAGD" which has seen 5 editions and has been translated into Japanese, German, French, and Chinese. His book on NURBS and the book "Practical Linear Algebra" that he co-authored with Dianne Hansford too saw further editions and translations.

In 2010 Gerald was struck by severe illness. While the help of his wife, both in teaching and his editorial duties, helped him recover for a while, his condition finally deteriorated. We are saddened by the loss but also celebrate Gerald's lifelong dedication to the field of CAGD.

### Books

- G. Farin and D. Hansford. The Geometry Toolbox. AK Peters, 1998.
- G. Farin. NURBS from Projective Geometry to Practical Use. AK Peters, Boston, 1999. Second edition.
- G. Farin and D. Hansford. The Essentials of CAGD. AK Peters, 2000.
- G. Farin. Curves and Surfaces for CAGD. Morgan-Kaufmann, 2001. Fifth edition.
- G. Farin and D. Hansford. Mathematical Principles for Scientific Computing and Visualization. AK Peters, 2008.
- G. Farin and D. Hansford. Practical Linear Algebra, CRC Press Taylor and Francis Group, 2013. Third edition.

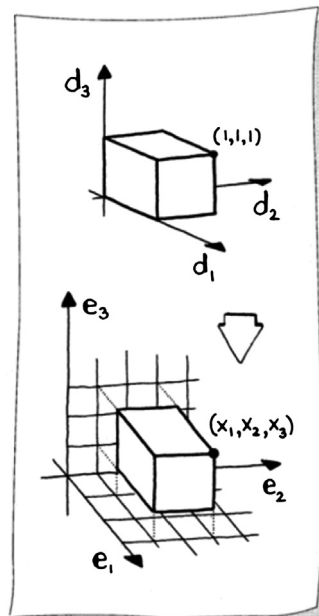


Figure from the book "Practical Linear Algebra"

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