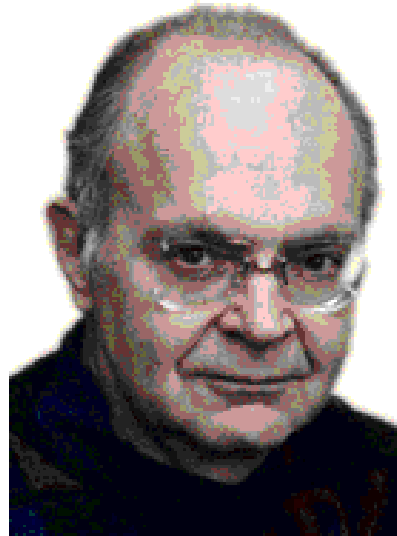
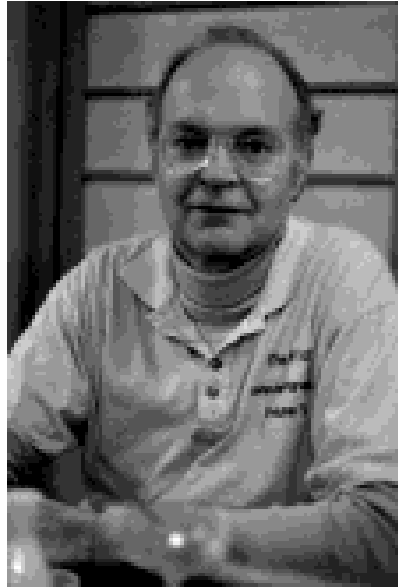


Donald E. Knuth



- 1963 Ph.D. in Mathematik (CalTech)
- seit 1968: Stanford University (Computer Science)
- Turing Award (1974), National Medal of Science (1979), John von Neumann Medal (1995), Kyoto Prize (1996), ...
- <http://www-cs-faculty.stanford.edu/knuth>

Stichworte

- ca. 160 Publikationen (Bücher, Artikel)
- Compiler und Semantik: LR(k)-Grammatiken, attributierte Grammatiken
- Algorithmen: Knuth-Bendix, Knuth-Morris-Pratt
- Analyse von Algorithmen: *The Art of Computer Programming*
- Typographie: TeX, METAFONT
- Dokumentation, Literate Programming: WEB, CWEB
- Unterricht: *Concrete Mathematics* (Graham, Knuth, Patashnik)

Aus einem Vortrag “All questions Answered” an der TU München am 5. Oktober 2001:

(<http://www.ams.org/notices/200203/fea-knuth.pdf>)

Question: *What importance do you give to the design of efficient algorithms, and what emphasis do you suggest giving this area in the future?*

Knuth: I think the design of efficient algorithms is somehow the core of computer science. It's a center of our field. Computers are incredibly fast now compared to what they were before, so for many problems there is no need to have an efficient algorithm. I can write programs that are in some sense extremely inefficient, but if it's going to take one second to get the answer, who cares? Still, some things we have to do millions or billions of times, and just knowing the number of times is finite doesn't tell us we can handle it. So the number of problems that are in need of efficient algorithms is huge. For example, many problems are NP complete, and NP complete is just a small level of complexity. Therefore I see an almost infinite horizon for the need for efficient algorithms. And that makes me happy because those are the kinds of problems I like the best.