



In Memoriam: Aldo de Luca

WORDS, Loughborough University
September 11, 2019

Aldo 1941–2018

- ▶ Born in Naples, November 1941
- ▶ University degree (cum laude) in Physics, Univ. Napoli 1964
- ▶ CNR Researcher at Istituto di Cibernetica, Pozzuoli 1967–1980
- ▶ Full Professor of Algebra, Univ. Napoli Federico II 1980–1985
- ▶ F.P. of Computer Science, Sapienza Univ. Roma 1985–2003
- ▶ F.P. of Computer Science, Univ. Napoli Federico II 2003–2010
- ▶ Professor Emeritus, Univ. Napoli Federico II 2012–2018

Aldo before WORDS

- ▶ In the '60s, he joined E. Caianiello's Cybernetics group, working on topics such as **neural networks** with L.M. Ricciardi
- ▶ He first met Marcel-Paul **Schützenberger** (among others) at a 1964 school on Automata Theory in Ravello
- ▶ In the early '70s, he worked on **uncertainty measures** with S. Termini
- ▶ Under Schützenberger's influence, he then moved to **formal languages, codes, automata, semigroups...**
- ▶ ... and of course **combinatorics on words**

Aldo's legacy and WORDS

- ▶ Author of >160 scientific publications
- ▶ Advisor for A. Carpi, C. De Felice, S. Varricchio, F. D'Alessandro, A. De Luca, and M. Bucci
- ▶ Along with J. Néraud, he may be considered one of the **fathers of this conference**
- ▶ He attended all editions up to his retirement (1997–2009), plus Turku 2013

Aldo's best articles (according to himself)



A. de Luca and S. Varricchio. “On noncounting regular classes”. In: *Theoret. Comput. Sci.* 100 (1992), pp. 67–104.



A. de Luca. “Sturmian words: structure, combinatorics, and their arithmetics”. In: *Theoret. Comput. Sci.* 183 (1997), pp. 45–82.








A. Carpi and A. de Luca. “Words and special factors”. In: *Theoret. Comput. Sci.* 259 (2001), pp. 145–182.



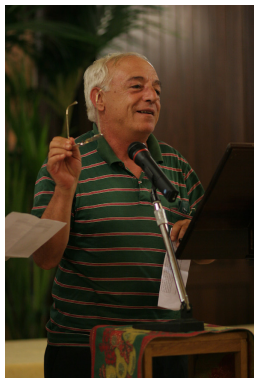
A. de Luca and S. Termini. “A definition of a nonprobabilistic entropy in the setting of fuzzy sets theory”. In: *Information and Control* 20 (1972), pp. 301–312.

More selected works

-  J.M. Boë, A. de Luca, and A. Restivo. “Minimal complete sets of words”. In: *Theoret. Comput. Sci.* 12 (1980), pp. 325–332.
-  E.R. Caianiello and A. De Luca. “Decision equation for binary systems. Application to neuronal behavior”. In: *Kybernetik* 3 (1966), pp. 33–40.
-  E.R. Caianiello, A. De Luca, and L.M. Ricciardi. “Reverberations and control of neural networks”. In: *Kybernetik* 4 (1967), pp. 10–18.
-  A. de Luca and A. Restivo. “A characterization of strictly locally testable languages and its application to subsemigroups of a free semigroup”. In: *Inform. and Control* 44 (1980), pp. 300–319.
-  A. de Luca and S. Varricchio. “On a conjecture of Brown”. In: *Semigroup Forum* 46 (1993), pp. 116–119.

A more personal view

- ▶ Aldo was a prolific author, but not an *extremely* prolific one, especially in later years,
- ▶ because of the great care he took over the details.
- ▶ He was a great teacher and an enthusiastic researcher.
- ▶ He did not care much about academic “politics”; research was his lifelong passion.



Thank You