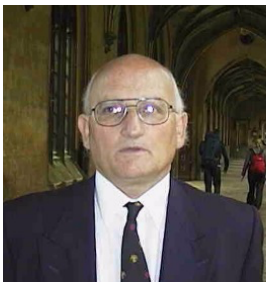
31-155 Cracow, Poland
phone: +48 126282700
email: pcbogdal@cyf-kr.edu.pl

http://dariuszbogdal.pl
http://www.cyf-kr.edu.pl/~pcbogdal

Ricky's Afterthought:



Miscellaneous items

A.C. (Ricky) Metaxas

Life Fellow St John's College Cambridge UK
Contact E-mail: acm33@cam.ac.uk

Rummaging through my bookcases in my office at St John's I came across some interesting books which I would like to bring to the attention of the readership. These are not new but members who joined our community recently may not be aware of their existence.

- Introduction to Plasma Technology: Science, Engineering and Applications, by John Harry, Wiley 2010
- Radio Frequency Plasmas by Pascal Chabert and Nicholas Braithwaite CUP 2011
- Dielectric Properties of Agricultural materials and Their Applications by S Nelson Academic Press 2015

All the books are still available to purchase, however, to my amazement I was able to download the whole of Stuart Nelson's book within a few minutes and for free. One does not get that kind of service with many books!

AI and all that

I also came across the Proceedings of the ***MRS Symposium held in San Fransisco in 1994*** on Microwave Processing of Materials IV edited by M. Iskander, R. Lauf and W. Sutton, where I presented an Overview of the activities within my group, the EUG at Cambridge University Engineering Dept.

Browsing through the paper it starts by describing all the usual activities such as teaching, research, publications, books, seminars, etc., but to my extreme surprise the last activity read as follows:

"AI and electroheat
Finally the Unit is looking ahead in linking aspects of artificial intelligence, already an important activity within the Engineering Department in its own right, with electroheat and this will form another important area in the near future. The result, years later, was the development of an expert system which guided the user, having fed the type of material, its size/properties and the heating/drying requirements, to the most appropriate eletroheat system for treating this particular material.".

Wow, this is some 30 years before AI has become the topic of conversation in all aspects of everyday life with researchers talking of downloading an AI roadmap to stay ahead of developments. Of course, the first notion of AI came about in the 1950's when it was hinted that in the future one could build machines that were more intelligent than humans.

The latest news regarding developments in AI, emanates from the founders of Anthropic, the $60billion rival to OpenAI, who claim that within a year there will be dramatic changes to the workforce making many unemployed and hoping that their

start-up will become one of the super-corporations of tomorrow. The industrial revolution had a similar effect when machines replaced many in the workforce forcing a huge swathe of redundancies, so likewise AI will have a similar effect and re-orientate society to a new order which many cannot thus far fully envisage. Incidentally many that are now with Anthropic were previously employed by OpenAI but they felt disillusioned by the way this company was run and joined the rival start-up. Anthropic's Chatbox, Claude, is highly regarded with some claiming that it is superior to ChatGPT across a number of industrial criteria. It is claimed that despite massive losses thus far they still bring funds in aiming next year at a staggering $4billion.

The speed with which rival start-ups are developing is astonishing. Which of Anthropic, OpenAI, Google and Deepseek in the end will come on top is hard to say at this stage, the crucial factor being the kind of data one feeds in to these schemes for training will influence how well they develop.

Ethan Mollick from Pennsylvania University and author of Co-Intelligence, said recently, that "adoption of this technology is historically huge and more is coming. Every controlled study we do shows large scale effects on performance from using AI systems at the individual level. It is good at medicine and education." What is undeniable is the speed with which AI enters all walks of life and one hopes that people involved in this emerging technology have built in their systems safeguards so that when something is obviously going the wrong way, however one defines that, alarm bells sound and catastrophic consequences are averted.

Such sentiments are echoed in Cambridge's Conservation Institute, which recently it asked:

"Have you ever persisted in following your SatNav even when you knew you were going in the wrong direction? If so you will know that placing all your trust in a machine powered by AI without also engaging your own intelligence does not always get you where you want to go. This is a message that a group of conservation scientists at Cambridge is pushing hard. Efforts to protect the natural world need all the help they can get but before embracing AI as a solution we need discussions about its risks and wider implications."

What is frightening is the pace at which AI is invading many areas and we seem to be incapable of slowing it down or arresting its relentless expansion.

Incidentally, the In Memoriam about Serge Lefeuvre that heads this Issue was prepared by our colleagues at ENSEEIHT, Jun-wu and Tan-Hoa and was enhanced using AI's ChatGPT!