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Less industry research in scientific publications: A/D-converters in a steady decline

The share of scientific contributions originating from industry is diminishing while the overall number of papers increases rapidly. That is a persistent trend in the A/D-converter field according to an ongoing survey of research trends conducted by ADMS Design AB. “Analog-to-digital conversion has a central role in nearly all electronics today”, says Dr. Bengt Jonsson, founder of ADMS Design AB, “and it is not unlikely that similar trends exist in neighboring fields such as ASIC and RFIC”.

A steadily decreasing share of scientific papers being from industry, while the overall number of papers increase exponentially. That is a persistent trend in the A/D-converter (ADC) field according to an ongoing survey of research trends conducted by ADMS Design AB. “We chose to survey analog-to-digital converters because it is our core competence, and because A/D-conversion has a central role in nearly all electronics today” says Dr. Jonsson. “It is not unlikely that similar trends exist in neighboring fields such as ASIC and RFIC. Either way, we felt that the findings from this part of the study were interesting enough to release before the entire survey is completed.”

Specifically, the study showed that the percentage of scientific publications where the first author is affiliated with a company reduces every year. The first author is usually the main contributor. The negative trend can be observed almost as far back as when the first monolithic implementations were reported in the 1970’s, and is approximately linear. Therefore, there will be **no ADC-related industry research published scientifically by year 2020–2025** if the trend holds. The trend is not necessarily reflecting a reduced industrial research activity. It is partially explained by an annual growth in academic research output that results in a continuously shrinking share being from the industry. Increasing competition and secrecy, a mature field, and the abstract business value of scientific publications are other possible explanations.

The ongoing survey investigates research trends from numerous angles, with the amount of publications from industry being just one of many. “We also measure trends with respect to what architectures are researched, which countries, regions, etc. are doing what, the amount of activity, and target performance trends. Our goal is to provide research, technology, and business strategists with relevant facts, and this study opens up new possibilities to do just that”, explains Dr. Jonsson. “Academic scientists, industrial end users and providers alike – long term success depends on your ability to make strategic decisions. That is why our results are valuable to all these categories, and also to investors and venture capitalists targeting the field.”

Reports with analysis results will be available for purchase after the summer. For more information, contact ADMS Design AB.

The study has focused on scientific research where monolithic IC prototypes were fabricated and experimentally evaluated. Simulation-only, and purely theoretical works were not included.

The diminishing share of industrial contributions has also been discussed on the tech-blog **Converter Passion**: <http://converterpassion.wordpress.com>

Link to the discussion: <http://converterpassion.wordpress.com/2011/06/13/is-ad-converter-research-becoming-a-purely-academic-exercise/>

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