

## 2015 Highlights

### Research team

At the end of 2015 the center research team consisted of eight senior researchers (4 at AU), five Postdocs (all at AU) and thirteen PhD students (6 at AU).

Additionally, two further Postdocs and seven PhD students (six of which obtained PhD degrees during the year) were part of the center in 2015. Almost all center Postdocs are internationals and so are all but two of the PhD students.



### Research collaboration and results

In 2015 MADALGO researchers published 69 peer reviewed research papers within the center research areas. Several of these papers have appeared in highly ranked journals and conference proceedings. Some of the results in the papers have been obtained with the many international researchers that visited MADALGO in 2015. The center also has extensive multidisciplinary and industry collaboration.

Many techniques are known for proving how much space is needed to solve a given streaming problem (space lower bounds). However, the situation is much more disappointing when it comes to understanding how fast stream data items can be processed (time lower bounds). In fact, until recently no time lower bounds were known for any streaming problem.



In 2015 center researchers described a general method for translating streaming space lower bounds into time lower bounds. This allowed for immediate reuse of a decade of research in streaming space lower bounds to obtain time lower bounds for many fundamental streaming problems.

### Center Events



Apart from a large number of smaller research seminars and workshops, as well as a retreat for center employees, MADALGO organized a four day international summer school on "Streaming Algorithms" in 2015, where four international experts lectured for 76 participants (mostly PhD students) from 38 institutions and 3 companies in 17 countries. The center also organized the Sixth Workshop on Massive Data Algorithmics (MASSIVE 2015) as part of the main European algorithms event ALGO in Patras, Greece.

In 2015 center researchers gave numerous presentations at international research conferences, as well as more than 30 invited presentations at research conferences, workshops and seminars. Center researchers have also participated in several public outreach activities, including as lecturer at the people's university ("Folkeuniversitetet").

### Awards and acknowledgments

Center researchers received a number of awards and acknowledgments in 2015 including the following:

Center senior researcher Mehlhorn was elected Foreign Associate of the US National Academy of Sciences, Indyk was Elected Fellow of the Association for Computing Machinery (ACM), and Afshani was promoted to Associated Professor with Tenure. Center Director Arge was knighted by the Queen of Denmark.

Center PhD students Rav and Eenberg won the AU Computer Science Teaching Assistant of the year and Computer Science Student of the Year Award, respectively.

