maDalGO

CENTER FOR MASSIVE DATA ALGORITHMICS

AARHUS UNIVERSITY

Danmarks Grundforskningsfond
Danish National Research Foundation

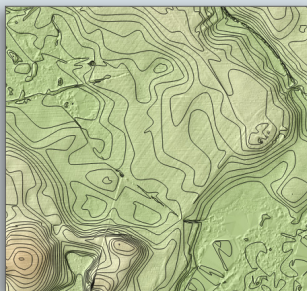## 2012 Highlights

Research team

At the end of 2012 the center research team consisted of eight senior researchers (4 at AU), nine Postdocs (7 at AU) and seventeen PhD students (9 at AU). Additionally, three further Postdocs and four PhD students (all of which obtained PhD degrees during the year) were part of the center in 2012. All center Postdocs are internationals and so are a good deal of the PhD students.

Research collaboration and results

In 2012 MADALGO researchers published 88 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 have visited MADALGO in 2012. The center also has extensive multidisciplinary and industry collaboration.

Producing both accurate and aesthetic *contour maps* from detailed terrain models is a challenging task. In 2012 MADALGO researchers developed and implemented algorithms that are able to process even extremely large and detailed terrain models to produce aesthetic contour maps with a user-specified *x*-, *y*-, and *z*-accuracy.

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 Algorithms for Modern Parallel and Distributed Models in 2012, where four international experts lectured for 60 participants (mostly PhD students) from 40 institutions in 17 countries.

The center also organized the Fourth Workshop on Massive Data Algorithmics (MASSIVE 2012) as part of the main European algorithms event ALGO in Ljubljana, Slovenia. In previous years the workshop was colocated with Symposium on Computational Geometry.

In 2012 center researchers gave numerous presentations at international research conferences, as well as more than 45 invited presentations at research conferences, workshops and seminars.

Center researchers have also participated in several public outreach activities, including in the annual Festival of Research where the center booth attracted many interested visitors (including the Minister for Science, Innovation and Higher Education).

Awards and acknowledgments

Center researchers received a number of awards and acknowledgments in 2012 including the following:

Center Director Arge was elected Fellow of the Association of Computing Machinery (ACM) and Brodal received the first Best Lecturer Award given by the Department of Computer Science at Aarhus University. Work by Indyk and collaborators was selected as one of ten emerging technologies by Technology Review.

Center PhD student Larsen won the best paper award *and* the best student paper award (the Danny Lewin award) at the top theoretical computer science conference ACM Symposium on Theory of Computing.

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