

Press release

Snapshots of modern mathematics

Oberwolfach, 11/10/2015

The Mathematisches Forschungsinstitut Oberwolfach (MFO) publishes “*snapshots of modern mathematics*” openly accessible on the internet. The *snapshots* are brief, understandable articles on current mathematical research topics. They address themselves at teachers, secondary school students, science journalists as well as the general mathematically inclined public.

Thinking back on the mathematics you were taught in school brings to mind formulas such as the Pythagorean theorem, the quadratic formula, and concepts such as the order of operations — mathematical knowledge that has been established for a long time. However, how easy is it to name some topics that mathematicians currently work on? These questions are answered by mathematicians in an illustrative way by the “*snapshots of modern mathematics from Oberwolfach*”.

Prof Gerhard Huisken, director of the MFO and founder of the *snapshots project*, and Dr Carla Cederbaum, project coordinator and senior editor, explain the background of the project: “The aim of the *snapshots* project is to give a broader audience access to aspects of modern mathematics in the most comprehensible way possible. Using various examples, we want to illustrate that mathematical research can be exciting, elegant, and diverse. The numerous applications of mathematics to other research disciplines as well as areas of pure mathematical research are introduced and explained.”

At the MFO, 50 to 60 experts from around the world convene every week to work on challenges in the field of mathematics. They present new solutions, discuss different approaches, and develop new ideas together.

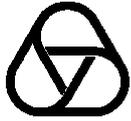
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After each workshop, the MFO will invite select participants to summarize their research in a *snapshot* in a broadly understandable way.

For example, Dr Hermann Mena, a young researcher from Ecuador, and his co-authors describe how mathematics was able to contribute to the resolution of a political dispute over coca fields in Columbia.

Young mathematicians work in close collaboration with the authors to edit and prepare the *snapshots* for publication.

Dr Diana Davis, author of a *snapshot* and researcher at Northwestern University, sums up her impressions during the writing process: "Writing the snapshot was a unique experience because it challenged me to strip away all of the technical details, and present the essential ideas. The editors reworked many of my sentences – more than I expected! – and it was interesting to see the changes they made to present my ideas more clearly to a general audience."

The MFO publishes the "*snapshots of modern mathematics*" in an open access manner on their website (www.mfo.de/snapshots – also available as an RSS feed) and on the online platform IMAGINARY (www.imaginary.org/snapshots). Some of the *snapshots* are also already available in German.

The project has already produced more than 20 *snapshots* — enough for readers to gain insight into the diversity of modern mathematics. Many more will follow. In the meantime, the number of submissions has soared drastically such that senior editor Dr Carla Cederbaum had to expand her team of editors from three to six. During October 2015, this international group of editors met at MFO to establish the guidelines for their joint work.

The *snapshots* are part of the mathematics communication project "Oberwolfach meets IMAGINARY", which is funded by the Klaus Tschira Foundation. The project is also supported by the Oberwolfach Foundation and the MFO. IMAGINARY was initiated in 2008 at the MFO as an interactive traveling exhibition on mathematics and has evolved into a

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collaborative platform for all mathematics enthusiasts, around the world, and can be found online at www.imaginary.org.

The Mathematisches Forschungsinstitut Oberwolfach organizes and supports mathematical research, international research collaborations, and career development in mathematics and its satellite subjects. Up to 2500 researchers, who are leading experts in their respective fields, participate yearly in the workshop program. The MFO was founded over 70 years ago and has been part of the Leibniz Association since 2005, and is one of the most important international centers for mathematical research.

For more information see www.mfo.de.

The German foundation Klaus Tschira Stiftung was created in 1995 by the physicist Klaus Tschira. It is among Europe's largest non-profit foundations funded from private means. The Klaus Tschira Stiftung promotes the advancement of natural sciences, mathematics and computer science and wants to raise appreciation in these fields.

For more information see www.klaus-tschira-stiftung.de

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Picture material



The snapshots editorial team from left to right: Dr Carla Cederbaum (senior editor), Johannes Niediek, Daniel Kronberg, Moritz Firsching, Sabiha Tokus, Dr Andrew Cooper, Sophia Jahns. Source: Picture archive of the Mathematisches Forschungsinstitut Oberwolfach