

Kaisa Matomäki

Kaisa Matomäki was born in 1985 and completed her master's degree at the University of Turku in 2005 with a dissertation on number theory. She then continued her studies in London and gained a doctorate there in 2009. Since then she has continued her research in number theory under the auspices of the Academy of Finland. She was appointed to an associate professorship at the University of Turku in 2015 and is at present on leave from that position.

She was awarded the Academy of Finland prize for scientific courage in November 2016 and together with her collaborators received the SASTRA Ramanujan prize in India in 2016, the statement accompanying the prize being phrased quite concisely as "Kaisa Matomäki is one of the strongest young analytic number theorists in the world today."

As a researcher with the Academy of Finland, Kaisa Matomäki has pursued a bold policy of widespread cooperation, on the principle that the ability of a com-

posite entity to be greater than the sum of its parts applies in mathematics as well. Number theory is the study of the properties of integers, with regard to which it is possible to formulate questions that even a layman can understand but yet they have remained unresolved for a long time. Matomäki and her collaborators have discovered new approaches to these problems.

"Science means for me a fascinating entity which humanity is constantly managing to understand better", she says. Mathematics as a branch of science attracts her because it is exact. When something is proved by means of an argument that is in all respects flawless, then it is quite definitely true and our knowledge of mathematics has grown as a result. In practical terms this also means for her the joy of perceiving something new and of achieving something together with her colleagues.

To the outsider the work of a mathematician would appear to be a highly monotonous process of sitting at a desk and

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considering a problem without any notable instruments to help. It is an abstract equivalent of building something with Lego, in that new theories can be constructed by fitting certain pieces together logically and sensibly. Sometimes you even have to fashion some new pieces, or else when faced with the problem it is necessary to know how to fit the existing pieces together to obtain the entity that you were aiming at.

"When I began mathematical research I mostly worked alone, but gradually I have become more networked and have been

able to collaborate with some extremely talented mathematicians. Nowadays practically all my projects are joint ones. I have found this to be a good way of doing research, for when I come up against a brick wall it is possible that one of my colleagues may find a rope ladder that offers me a way over it."

Kaisa Matomäki returned to work from maternity leave at the beginning of the year and immediately embarked on a four-month visit to the University of California at Berkeley, where analytical number theory was the theme for the whole term.

Väisälä Prize is awarded annually to 1–3 already distinguished scientists in the active parts of their careers.