



Preamble

Since 1982 the IMU has awarded the Rolf Nevanlinna Prize, once every 4 years at the International Congress of Mathematicians, for outstanding contributions in Mathematical Aspects of Information Sciences including:

1. All mathematical aspects of computer science, including complexity theory, logic of programming languages, analysis of algorithms, cryptography, computer vision, pattern recognition, information processing and modelling of intelligence.
2. Scientific computing and numerical analysis. Computational aspects of optimization and control theory. Computer algebra.

The prize comprises a gold medal and a monetary award of EUR 10,000.

At the IMU General Assembly in 2018, the following resolution (Resolution 7) was passed:

The General Assembly requests the 2019–2022 IMU Executive Committee, giving due consideration to all the issues involved, to determine and set up statutes for a prize continuing and with the same purpose and scope as the Nevanlinna Prize but with a new name and appropriate funding to be secured.

The statutes of the new prize will be sent to the Adhering Organizations for approval by a postal ballot.

Taking action

The Executive Committee (EC) of the IMU discussed the issue at its meeting in Berlin 1–3 March 2019 and decided as follows:

1. **IMU Abacus Medal** will be the new name of the prize.
2. The first IMU Abacus Medal is to be awarded at the International Congress of Mathematicians in 2022.
3. To draft the statutes for the IMU Abacus Medal, including purpose and scope as well as monetary attributes of the award, on the basis of Resolution 7 of the 2018 IMU General Assembly, and ask for the IMU Adhering Organizations' approval by postal ballot.
4. To make a call to the IMU Adhering Organizations regarding the funding of the IMU Abacus Medal.

The naming of the prize

There are many constraints to be considered, and the EC spent considerable time discussing various options. The name must not refer to commercial companies, any country, or any living persons. The name should be concise, comparable to other IMU awards. An aspect to be considered is that if we name the award after a person, we should be convinced that the person has an unblemished reputation. We should avoid the name of any existing international prizes in related areas, both out of respect to

other organizations and to escape misunderstandings. Also, generic names like IMU Prize in the Mathematics of Computation or IMU Prize on the Mathematical Aspects of Information Sciences were discussed but they were found to be too long.

The name IMU Abacus Medal relates to the abacus, an ancient device that was used for numerical computations, and it underscores the importance of calculations already in early mathematics. The exact place and time of origin of the abacus is unknown, and it can be considered a truly global artifact associated with mathematics and computation.

Invitation to submit bids for funding

The main characteristics of the IMU Abacus Medal are as follows:

One IMU Abacus Medal to be given at each International Congress of Mathematicians, starting in 2022, and from then on every four years. The award consists of a gold medal, a cash award of EUR 10,000, and a diploma.

Bids are invited to provide funding for an indefinite period of time, for both the medal and the cash award. The diploma will be designed by the IMU.

Regarding the physical medal, it should be on par with the Fields Medal (14 carat gold, weight 169 g, 63.5 mm in diameter¹). The successful bid will cover the design of the medal as well as the full production costs. The design of the medal will need the IMU EC's approval. Payment of the cash prize will require bank wire transfer.

Please submit your bid by 1 October 2019 to Secretary General Helge Holden at secretary@mathunion.org.

¹ See <https://www.mathunion.org/imu-awards/fields-medal>