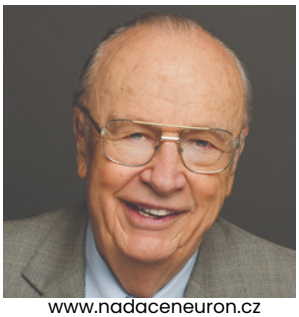
ESCAMPIG HERALD

IVO BABUŠKA(*1926 †2023)

THE INFINITE MATHEMATICIAN WITHIN FINITE ELEMENT



www.nadaceneuron.cz

Ivo Babuška was a mathematician known worldwide. He was born on 22nd March 1926 in Prague, Czechoslovakia. His father, Milan Babuška, was a famous architect who designed many buildings, e.g., the National Technical Museum and the National Museum of Agriculture in Prague.

After World War II, in 1949, he graduated in civil engineering at the Czech Technical University in Prague. In 1955, he received a PhD in Mathematics, and in 1960, he became a research professor.

Ivo Babuška belonged among the most influential mathematicians in the Institute of Mathematics at the Czech Academy of Science. He worked there as the leader of a numerical mathematics group.

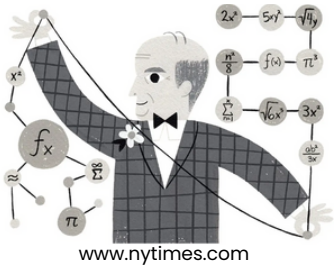
His group analyzed the technology of constructing the 91-meter-high gravitational dam Orlík on the Vltava River in south Bohemia. The mathematical problem was to solve a nonlinear heat conduction partial differential equation describing the solidification of concrete. All the computations (about 3*10^6 arithmetic operations) were carried out by a team of people on mechanical desk calculators.

Ivo Babuška established the Czechoslovakian journal Applications of Mathematics back in 1956. He was also one of the founders of the series of the international scientific meetings EQUADIFF.

The first EQUADIFF Conference on Differential Equations was held in Prague in 1962. It was an exceptional forum where mathematicians from the East and the West could meet.

In 1968, after the Soviet army invasion, Babuška and his family hastily departed for a planned one-year stay at the University of Maryland in College Park, USA. The university offered him a prolongation of the contract. Ivo Babuška declined the order from the Czechoslovak authorities to return and due to the turn in the political situation in Czechoslovakia and the normalization period after 1969, he had stayed in the USA ever since.

Professor Babuška substantially influenced the theoretical development of numerical mathematics and computational mechanics. He is also known for his theoretical results in the theory of partial differential equations.



www.nytimes.com

Together with Rheinboldt, he founded the field of a posteriori error analysis and adaptive methods.

His famous contribution is a generalization of the famous Lax–Milgram theorem, which gives conditions under which a bilinear form can be "inverted" to show the existence and uniqueness of a weak solution to a given boundary value problem. The result bears his name: Babuška–Lax–Milgram theorem.

BTW: Today is also the anniversary of the passing of Boris Galerkin, known for his contributions to applied mathematics and finite element method.

WANTED

LUCA VIALETTO
09:15

LUÍS ALVES
11:00

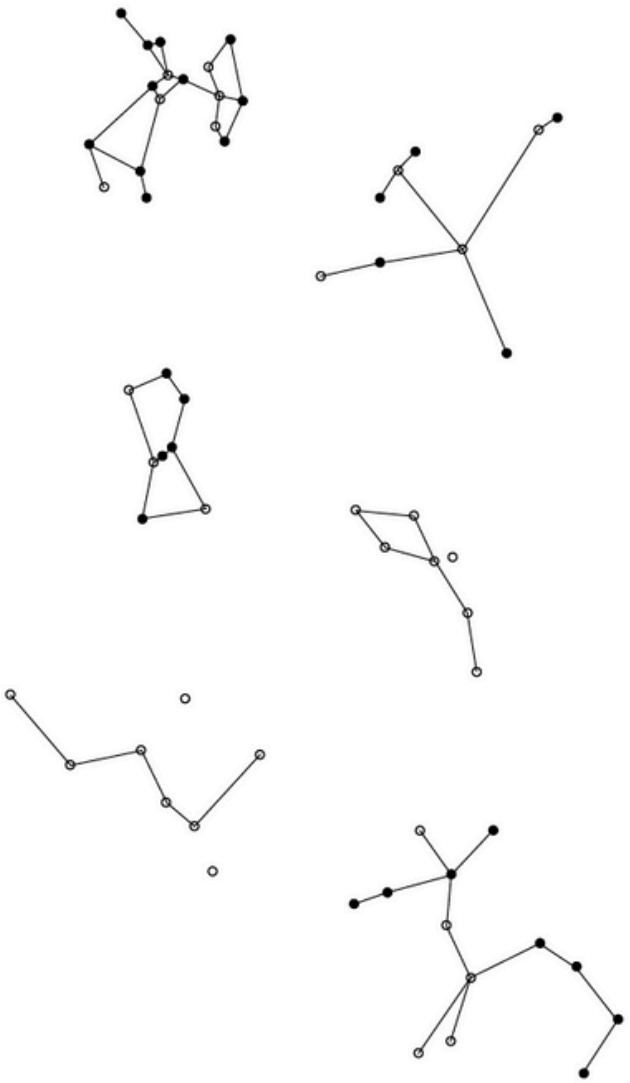
ANA GÓMEZ-RAMÍREZ
11:45

TODAY'S CIPHER

We bring you a new puzzle. The puzzle made by Pavel Dvořák looks like the constellations, see below.

To solve it, you need to look at the true version of this cipher, which is located on three windows of the conference building. The solution is again one word.

AQUILA, CASSIOPEIA, CENTAURUS, DELPHINUS, ORION, SAGITTARIUS



EXCURSIONS

Please check the instructions that you have received at the registration. If you were assigned a specific time, be punctual!

Villa Tugendhat – An architectural gem from 1929 that was ahead of its time. Even today, you can still get inspired by the unique design.
Špilberg castle – One of Brno's dominant features was once the harshest prison in the Austro-Hungarian Empire.
Water Tanks – Brick water tower systems from the 19th century were decommissioned in 1997 and changed into a unique space.
LabTour (CEPLANT and Department of Plasma Physics and Technology) – Starting from 16:30 with 15-minute intervals, you can tour the laboratories and get acquainted with the directions of plasma research at SCI MUNI.

GARDEN PARTY

SCI MUNI BOTANICAL GARDEN

Enjoy the small barbecue party from 18:00 to 21:30. You can look forward to grilled sausages and the Czech version of camembert (Hermelín).

Explore the beauty of the well-kept plants and greenhouses and browse through the newly installed exhibition of sculptural works of students from the Faculty of Fine Arts, BUT.

CHESS CORNER

This chess piece puzzle was again prepared by Petr Bílek. It is linked to the famous game played by Albert Einstein in 1913.

Einstein sets up a brilliant trap in the Italian Game, one of the most popular chess openings.

EINSTEIN = MAGNUS C^2ARLSEN

At a critical moment, Einstein sacrificed his rook to gain the initiative and attack hisopponent's king. He won the game with a beautiful tactical combination that resulted in a forced checkmate.

Can you find, just as Einstein did, a checkmate in six moves for white?