

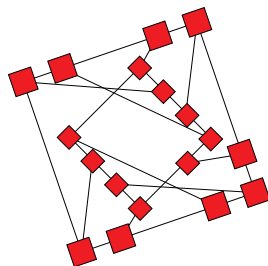
# Croatian Mathematical Society

Franka Miriam Brueckler

*The Croatian Mathematical Society (CMS, [www.matematika.hr](http://www.matematika.hr)) is the professional association of mathematicians in the Republic of Croatia, whose goal is to improve and promote mathematical science, teaching mathematics at all levels, application of mathematics in other disciplines and improving the social position of mathematicians in general. It was constituted in 1990, but its history is much longer. The formal creation of the CMS after Croatia became an independent state is the result of long-existing scientific societies existing in the former Yugoslavian Socialist Republic of Croatia.*

The oldest of the societies which preceded and influenced the formation of the CMS is the Croatian Society of Natural Sciences (CSNS), created back in 1885. This society is a predecessor of all current scientific societies in Croatia, and it still exists, serving its original purpose of development and popularisation of science. Its publications from the period 1886–1944, among others, also contained mathematical articles.

After World War II, in 1945, the Mathematical-Physical Section of the CSNS was formed, and one year later the formation of the Educational Section for Mathematics and Physics followed. The latter organised both discussion meetings for teachers of mathematics and physics, and popular talks for the general public. The first-mentioned, in cooperation with the Astronomical-Geophysical Section, published the scientific magazine *Glasnik matematičko-fizički i astronomski* (1946–1965), in which Blanuša's snark, the graph on the CMS logo was published. It is a graph discovered and published in 1946 by Croatian mathematician Danilo Blanuša (1903–1987) related to his work on the, at that time still open, 4-colour theorem. It was known that in order to prove the conjecture it is sufficient to consider 3-regular bridgeless planar graphs. At that time only one snark (a simple, connected, bridgeless 3-regular graph with chromatic index 4) was known, the Petersen graph, and in his paper Blanuša gave his snark as an example of a 3-regular bridgeless graph which is not 3-edge-colourable, the first of two snarks named after him. In 1996 the CMS chose this graph to be a part of its logo.



Another society, the Society of Croatian Mathematicians and Physicists (SCMP), was also soon created (1949), and it existed until 1990 as part of the Association of Societies of Mathematicians, Physicists and Astronomers of Yugoslavia. Its educational section was very active right from the start, and it began organising several seminars, meetings and events which have survived, more or less continuously, to the present day. This society also began to publish the journal *Matematičko-fizički list*, a professional journal on maths and physics for high school students, which is still being published, jointly by the CMS and the Croatian Physical Society. The still-existing research journal *Glasnik matematički* also began its existence 1966 within the SCMP.

Today, the CMS is a member of the EMS and the IMU (both since 1993). It has seven member societies (Croatian Actuarial Society, Croatian Biometric Society, Croatian Society for Geometry and Graphics, Mathematical Society Istria, Mathematical Society Zadar, Split Mathematical Society and Association of Mathematicians Osijek), and more than 1000 individual members. The CMS activities are organised within five sections: the Educational Section (CMSEdS), the Scientific Section (CMSSS), the Engineering Section (SMSEnS), the Professional Section (CMSPS) and the Student Section. The CMSEdS also founded the CMS Juniors for students of primary and secondary schools. The CMSSS is involved in the advancement and unification of mathematical research in the Republic of Croatia. Among other activities, it organises regular scientific colloquia and a quadrennial international maths conference, the Croatian mathematical congress. The CMSEdS is active in the improvement of mathematics teaching at all levels. It organises regular professional lectures and conferences (quadrennial Congress of mathematics teachers of the Republic of Croatia). Also, the CMSEdS participates in the organization and implementation of all competitions in mathematics in the Republic of Croatia, including the qualifications for the International Mathematical Olympiad, Middle European Mathematical Olympiad, European Girls Mathematical Olympiad, Cyberspace Mathematical Competition, Junior Balkan Mathematical Olympiad and Mediterranean Mathematical Olympiad. The CMSEdS also organises the

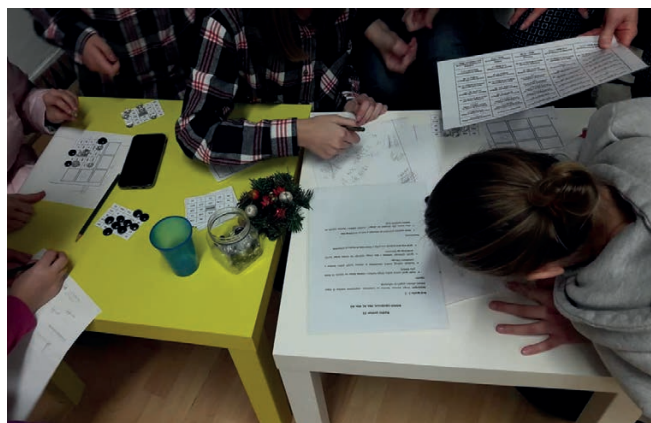
Mathematical Kangaroo Competition in Croatia with more than 50,000 participants every year. The CMSEnS connects mathematicians from various technical and business fields and promotes applications of mathematics. It organises regular popular, professional and scientific lectures. The CMSPS connects mathematics teachers employed at polytechnics and independent colleges in the Republic of Croatia. Its main activity is the organisation of professional colloquia, public lectures and round tables on various topics related to the teaching of mathematics subjects in professional studies.

The CMS also organises a series of very attractive, high-level international conferences in the Inter-University Centre (IUC, [www.iuc.hr](http://www.iuc.hr)) in Dubrovnik. They began as quadrennial, however since 2001 they are biannual. The first nine, from 1981 to 2005, were named “Functional Analysis (I–IX)” (including Operator Theory, Banach Algebras, Probability Theory, Differential Operators, Wavelets, Representation Theory), then the name and the subject specialised to “Representation Theory (X–XVI)”. Since 2019, Number Theory has also been included. Many well-known mathematicians have participated in these conferences: P. Halmos, G. Weiss, A. V. Skorokhod, V. Kac, D. Vogan (who is one of the co-directors since 2001), M. Duflo, G. Pedersen, G. Pisier, R. Howe, T. Arakawa, W. Soergel, K. Vilonen, J. Lepowski, T. Kobayashi, D. Gourevitch, M. Frank, ....

In 1995, the general assembly of the CMS constituted the CMS Prize for Scientific Contribution to Mathematics. It is awarded quadrennially to a young mathematician up to 35 years of age, living in Croatia. So far the recipients of the prize have been I. Slapničar (1996), A. Dujella (2000), G. Muić (2004), O. Perše (2008), I. Velčić (2012) and A. Mimica (2016). The last recipient, A. Mimica, unfortunately passed away before receiving the prize, following which the CMS decided to name the future CMS prizes after him. In 2020, the recipient of the CMS Ante Mimica Prize was S. Kožić.

The CMS publishes several research and professional mathematics journals: *Matka* (since 1992, for children up to about 15 years of age), the online-journal *math.e* (aimed at high school students, since 2004), *Poučak* (journal for didactics and teaching of mathematics, published since 1998), *Glasnik matematički* (publishes original research papers from all fields of pure and applied mathematics, has been published since 1966, since 2008 it is cited in WOS and SCIE) and *Vjesnik HMD-a* (yearly bulletin on current activities of the society). The CMS also, since 1998, publishes popular mathematics books in a series called *Matkina biblioteka*. So far 20 books of this series were published, the two most recent in 2020.

We end this short presentation of the CMS with the mention of an important popular mathematical activity of the CMS, the yearly Evening of Mathematics, held every year since 2013 on first Thursday in December. It is a collection of mathematical talks, workshops and other activities aimed at children of all ages which has proven to be a great success, with increasing number of participants every year up to sometimes more than 100,000.



Pictures from the Evening of Mathematics

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Franka Miriam Brueckler was born 1971 in Essen, Germany and works as assistant professor at the Department of Mathematics in Zagreb, where she received her PhD in operator theory (2002). Her current main research interest is history of mathematics. She teaches Mathematics 1 and 2 for chemists, History of Mathematics, and Crystallography for geologists, is active in popularisation of mathematics, was a member of the EMS Raising Public Awareness Committee (2009–2017, vice-chair 2012–2017) and received the 2009 Croatian State Award for Popularisation of Science.

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