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The 2023 Eddington Medal is awarded to Dr Monika Moscibrodzka

Dr Monika Moscibrodzka has been awarded the Eddington Medal, for her leading role in the award-winning imaging and modelling of the black holes in the centres of the galaxy M87 and our own Milky Way Galaxy. Dr Moscibrodzka carried out pioneering numerical simulations of these two black hole shadows observed by the Event Horizon Telescope (EHT) Collaboration.

Dr Moscibrodzka is an expert in general relativistic plasma dynamics, numerical astrophysics, black holes and their environments. Dr Moscibrodzka carries out general relativistic simulations of plasma, magnetic field dynamics and radiative transfer to predict observational signatures of accreting black holes. She also developed efficient algorithms to predict images of black holes in polarized light. Dr Moscibrodzka has had several leadership roles in the EHT collaboration, as Polarimetry Working Group coordinator, as Theory Working Group coordinator, and member of the EHT Science Council.

Dr Moscibrodzka pioneered the direct comparison of numerical simulations with observations of black hole images, which today forms the basis of fundamental tests of the theory of General Relativity using the EHT. This work was crucial to interpret the iconic first ever image of a black hole shadow, in the galaxy M87, published in a series of papers in April 2019. She also has had a leading role in polarization analysis of the M87 images published in March 2021. For the major paper release of the EHT collaboration in May 2022, on the shadow of Sagittarius A*, the black hole in the Milky Way Centre, Dr Moscibrodzka again played an important role in the writing of the main papers.

For these reasons Dr Moscibrodzka is awarded the Eddington Medal.